Compassion, Acceptance and Narrative Identity in the Self-Regulation of Learning Among University Students with Learning Disabilities

by

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ABSTRACT

COMPASSION, ACCEPTANCE AND NARRATIVE IDENTITY IN THE SELF-REGULATION OF LEARNING AMONG UNIVERSITY STUDENTS WITH LEARNING DISABILITIES

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University students with learning disabilities (LDs) represent a growing fraction of the total student population within North America. While past research has focused on cognitive aspects of living with an LD, social-emotional factors associated with the condition have received less attention. Social-emotional factors may play an important role in students’ ability to regulate their learning and effectively cope with LDs. This study investigates the relations between self-compassion, self-acceptance of an LD, narrative identity, self-regulated learning, and self-reported GPA in university students with LDs. Participants were 78 university students who self-reported as possessing an LD. All participants completed an online questionnaire and 20 completed an interview which was subsequently coded for themes of disability acceptance, agency, and meaning-making. Correlational analyses revealed significant associations between self-acceptance of an LD, self-compassion, self-regulated learning and GPA. No significant correlations between life story themes and self-regulated learning were found. However, themes of disability acceptance were significantly related to self-compassion and agency themes.
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“Look well into thyself; there is a source of strength which will always spring up if thou wilt always look.”

— Marcus Aurelius
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Possessing a learning disability (LD) is a known risk factor for academic (Murray, Goldstein, Nourse, & Eugene, 2000) and social-emotional challenges (Davis, Nida, Zlomke, & Nebel-Schwalm, 2009; Wilson, Armstrong, Furrie, & Walcot, 2009). These difficulties associated with LDs often persist into adulthood (Gerber, 2012). Estimates from the National Longitudinal Survey of Children and Youth (NLSCY) put the prevalence of LD students in Canada at 4.9% (PACFOLD, 2007). Estimates from the United States are comparable, with data from the National Health Interview Survey showing that the student population of the United States has a prevalence of a LD of approximately 5%, whereas 4% possess attention-deficit/hyperactivity disorder (AD/HD) and 5% possess both disorders (Pastor & Reuben, 2008). Given this combined prevalence of 14%, the learning difficulties of these students present a unique challenge to post-secondary institutions as these students graduate from secondary and move into the post-secondary school system.

Students with LD are the fastest growing group of disabled students attending post-secondary institutions. They have been found to have weaker academic skills relative to their non-LD peers (Hughes & Smith, 1990; Sparks & Lovett, 2009) and to have markedly lower graduation rates compared to the general population (Gregg, 2007). In addition, these students rank themselves lower than the general student population on math, writing, and academic ability, as well as intellectual self-confidence (Henderson, 2001). Although researchers have traditionally focused their efforts on identifying and ameliorating the cognitive and academic skill deficits in students with LD, there has been less attention paid to finding ways to improve their self-regulated learning skills.
Self-regulated learning can be defined broadly as the “degree that individuals are metacognitively, motivationally, and behaviorally active participants in their own learning process” (Zimmerman, 1986, p. 308). Interest in self-regulated learning has grown in education since the mid 1980s, and in the past several decades there has been a move within the educational system toward a more learner-centered model that emphasizes self-regulated learning on the part of the student (Boekaerts, 1997; McCombs & Whisler, 1997; Reynolds, & Miller, 2003; Zimmerman, 2001). Historically, researchers in education focused on the mental abilities that predicted academic learning, before shifting in the 1960s toward a more environmental approach to understanding learning. Each of these movements emphasized the student as a passive consumer of knowledge. In contrast, self-regulated learning theorists focus on the ways that learners guide their own academic development through self-motivation, metacognition, structuring of their environment, and instruction-seeking (Zimmerman, 2001). Within the education system, self-regulated learning practices become most relevant in post-secondary education where students are generally expected to motivate themselves, direct their learning, and manage their own time and resources (Crux, 1991; Hodge & Preston-Sabin, 1997). University students’ self-regulated learning abilities have been shown to be important predictors of grade point average (GPA) (Albaili, 1997; Griffin, MacKewn, Moser, & VanVuren, 2012). Studies examining related constructs such as self-control have found them also to be important predictors of grade performance (Wolfe & Johnson, 1995). Notably, one study found that in adolescents, self-discipline was able to predict variance in grades over and above IQ (Duckworth & Seligman, 2005).

Whereas all successful students are self-regulated learners to some extent, students with an LD may benefit from an increase in learning skills and strategies. These students have
particular difficulty with self-regulated learning, such as being less academically motivated; more likely to procrastinate, having lower self-efficacy, using fewer metacognitive strategies, and perceiving self-regulated learning as being less useful than non-LD students (Hen & Goroshit, 2014; Klassen, Krawchuk, Lynch, & Rajani, 2008; Kovach & Wilgosh, 1999; Policastro, 1993; Prevatt, Reaser, Proctor, & Petscher, 2007; Ruban, McCoach, McGuire, & Reis, 2003; Sideridis, 2003). Research on the learning styles of post-secondary students with LD show that they report an increased need for self-regulation in their learning (Heiman, 2006) and that those who succeed academically rely on using compensatory strategies to overcome their challenges (Barga, 1996; Heiman & Kariv, 2004; Reis, Neu, & McGuire, 1997; Reis, McGuire, & Neu, 2000). When trained to use self-regulatory methods, students with LD have shown improvement in their academic performance (Butler, 1998; Butler, Elaschuk, & Poole, 2000; Harris & Graham, 1996). However, self-regulation as a trait has been shown to be relatively stable over time (Raffaelli, Crockett, & Shen, 2005). It remains unclear why some students are more likely to proactively cope with their LD using effective learning and study strategies than do others. The purpose of this study is to examine intra-individual differences in university students with an LD to describe what factors may have an influence on motivation for self-regulated learning.

In line with Zimmerman`s (1994) model of research on academic self-regulation, this study examined motivation for self-regulated learning by investigating the self-processes of university students with LD, as well as their self-reported self-regulatory behaviours. Specifically, these processes are the constructs of narrative identity, self-compassion, and self-acceptance of learning disability. Further, personal narratives with themes of agency, meaning-making, and acceptance of disability were examined for their relation to other self-processes and
self-regulated learning as measured by self-report scales. Finally, these constructs were examined in relation to their self-reported GPA. To provide a context for this research, the introductory material below includes a discussion of self-perception, motivation in students with learning disabilities, self-acceptance of learning disability, self-compassion and narrative identity.

The Self-System and Self-Regulated Learning

Shavelson, Hubner, and Stanton (1976) originally proposed a multidimensional model of self-concept. They described the self-concept as organized and structured into categories that are derived from domains of meaningful human experience, such as the social, academic and occupational spheres. Although this model of self-concept is multi-faceted, it is also hierarchical, with a general self-concept influencing, and being influenced by all subdomains and the experiences that build them. In support of this model, Byrne and Gavin (1996) analyzed the Self Description Questionnaire (SDQ) scores of 400 students using confirmatory factory analyses (CFA) and structural equation modeling (SEM), finding that the students possessed a general academic self-concept along with domain-specific academic self-concepts in areas such as English and mathematics that are based on self-evaluations of their own achievement in those areas. In another study using the same sample of students and self-report data, Byrne and Shavelson (1996) used CFA to find a similar structural model for social self-concept, with a general social self-concept containing subdomains such as family self-concept. Thus, the self can be regarded theoretically as structural in nature, as it is organized into multiple components. Depending on the domain, these components may influence the regulation of behaviour.

In theoretical papers, McCombs (1986, 1990) put forward a model of this hierarchical structure of the self, called the ‘self-system’ that influences self-regulated learning. McCombs
posited that the self-system forms a set of cognitive filters that process and encode incoming information. These filters primarily serve the function of maintaining self-worth by providing a sense of self-control and self-determination. In doing so, McCombs argues, these self-systems generate the motivation needed to engage in self-regulated learning. Processes important for self-regulated learning that emerge from the self-system include self-evaluation, self-awareness, self-observation, and self-reward. McCombs’s claims that one of the most important processes within this self-system is self-evaluation, and it is this process that gives rise to self-efficacy. As McCombs stated “Work in the area of the self and self-processes clearly indicates that the self-referent nature of our information processing activities forms a set of filters (self-schemata) that can enhance or deter our abilities to feel efficacious or in control of our learning processes” (1986, p. 325). According to this model, before learning strategies are to be employed by a learner, positive domain-specific perceptions of the learner’s competency to control their behaviour and environment sufficiently to gain a desired outcome must exist. If such perceptions are negative, the self-system will generate negative affect in response to challenges, resulting in diminished motivation to engage in self-regulated learning behaviours.

Researchers have investigated whether self-perception can influence motivation for self-regulated behaviours. Higgins’ (1987) theory of self-discrepancy proposed that when discrepancies occur between the self-concept and the ideal-self (the internalized representation of hopes and aspirations of either the individual or significant other) or the self-concept and the ought-self (the self that the individual believes is normative), negative affect is generated. This model has been supported by research into areas such as depression (Scott & O’Hara, 1993). This negative affect can in turn decrease motivation, reducing the ability to self-regulate behaviour. For example, Orellana-Damacela, Tindale, and Suarez-Balcazar (2000) found that
college student’s self-discrepancies between the perceived ‘actual-self’ (self-concept) and the ‘ought-self’ was significantly associated with dysfunctional procrastination.

The self-evaluative processes effects on motivation also affect academic performance. Marsh (1990) conducted a longitudinal multi-wave analysis of 1,456 high school students, comprised of four waves. Using SEM analyses on achievement test scores, grades, and self-rating data, Marsh tested different structural models, finding that academic self-concept influenced subsequent grades, whereas previous years’ grades did not influence subsequent academic self-concept. However, further research (Guay, Marsh, & Boivin, 2003; Marsh, 1999) demonstrated that the relation between academic self-concept and academic performance is reciprocal in that academic self-concept improves subsequent academic performance and prior successful academic performance improves academic self-concept. Further research examining the relations between academic self-concept, motivation and academic achievement suggests that academic motivation mediates the association between academic self-concept and academic achievement (Guay, Ratelle, Roy, & Litalien, 2010). Another self-evaluative process, self-efficacy, has also been found to impact performance. A meta-analysis by Multon, Brown, and Lent (1991) found a positive association between self-efficacy beliefs and successful academic performance.

Given that self-evaluative processes appear to be important to academic performance, students with LD appear vulnerable to being handicapped not only by their cognitive disabilities, but also by self-system processes that may reduce their motivation to overcome their challenges. These students have lower academic self-concepts than their non-LD peers (Bear, Minke, & Manning, 2002; Chapman, 1988). This may be due to LD students’ experiences of repeated difficulty and failure in learning academic material in school. Possibly, as a result of these
challenging experiences, they also experience heightened negative affectivity (Maag, & Reid, 2006; Noble & Evans, 2013; Yasutake & Bryan, 1995), which is potentially problematic as positive affectivity has been shown to benefit learning in LD students (Bryan, Mathur, & Sullivan, 1996). In terms of self-efficacy, the evidence is more mixed. In his meta-analysis of studies on the self-efficacy beliefs of students with LD, Klassen (2002) found that these students tend to overestimate their self-efficacy for writing despite their deficits in that area. However, studies that focus on self-efficacy for self-regulated behaviour found that students with LD scored significantly lower than their non-LD peers on their confidence to self-regulate their behaviour (Klassen, 2010; Klassen, et al., 2008; Major, Martinussen, & Weiner, 2013). Given their lower academic self-concept, lower self-efficacy for self-regulation, and higher negative affectivity, students with LD may be vulnerable to lowered motivation to succeed academically.

Motivation in Students with Learning Disabilities

Research has examined the motivational traits in students who possess or are at risk of a LD. In a longitudinal study of Finnish preschoolers, Lepola, Salonen and Vauras (2000) found that preschoolers with low reading ability showed an ‘ego defensive’ motivational style, characterized by avoidance coping behaviours, suggesting that early academic challenges can set the stage for development of poor motivational approaches that negatively affect a learner for their entire academic career. In a study comparing LD and non-LD students, Fulk, Brigham, and Lohman (1998) found that the students with LD were more work-avoidant and felt alienated from school, possibly related to their academic challenges. Sideridis (2003) compared the response of LD and non-LD sixth grade students to a challenging mathematics task. Students with an LD demonstrated lower levels of task persistence, higher levels of hopelessness, and more negative affectivity in response to the challenging mathematics task, which are components
of helpless behaviour. Furthermore, the students with an LD lost self-esteem following the task. Negative self-evaluation and ego-defensiveness may lead these students with an LD to avoid work and develop negative attitudes toward schoolwork, leading to learned helplessness within the school context. Indeed, in a study of Norwegian students, students with LD were more likely than low achievement students to endorse attributions of academic success to ability than effort, and showed more helpless behaviour as rated by their teachers (Valas, 2001). Further, students with an LD have been found to have low academic self-efficacy, higher entity views of intelligence (i.e., the belief that academic ability is unchangeable), a preference for performance goals (i.e., performing for the sake of external approval), and more maladaptive attribution styles (Baird, Scott, Dearing & Hamill, 2009), all of which have been associated with maladaptive learning efforts, such as avoiding difficult tasks, task abandonment, higher negative affect following task failure, and poorer performance following task failure (Bandura, 1997; Dweck, 1999). Thus, LD students’ cognitive-regulative characteristics render them vulnerable to poor motivation for successful academic performance. Academic difficulties that LD student’s encounter may result in lower academic self-concept and helpless behaviour and may also be a reaction to being diagnosed and assigned to special education.

Poor motivation has also been found in the post-secondary LD student population. University students with an LD have been shown to have higher rates of self-reported procrastination than non-LD students, with interview data showing that LD students believed that they procrastinated due to a fear of failure and a lack of specific academic skills (e.g. reading ability) (Klassen et al., 2008). This is particularly concerning, as Murray and Wren (2003) have demonstrated that work-avoidant behaviours were associated with poorer GPA for university students with LD. However, despite the lower academic motivation found in the aforementioned
studies not all students with LD fail academically. Some maintain a relatively high self-concept, and find ways to self-regulate their behaviour to achieve their goals and succeed academically. Identifying the factors that underlie the resiliency of academically successful students may be important for designing future interventions.

In an effort to identify such factors, Raskind, Goldberg, Higgins, and Herman (1999) conducted a 20-year longitudinal study of 41 LD participants at four-time periods on a variety of cognitive, environmental and social-emotional outcomes using case records, interviews, public records, psychological tests, and self-reports. Clinical judgements of ‘life success’ in these outcomes were associated with self-acceptance of LD, self-awareness, IQ, perseverance, proactivity, goal setting, academic achievement, use of support systems, and emotional stability. This suggests that, in addition to other factors, social-emotional traits may play a role in positive coping with LDs. In a similar vein, Hen and Goroshit (2014) found that emotional intelligence (EI) in university students had an indirect effect on GPA via academic self-efficacy, and that this effect is stronger for students with an LD. Spekman, Goldberg and Herman (1992) examined factors associated with successful education and employment outcomes for young adults with LD. Based on interview and self-report data, improved life outcomes appeared to be associated with realistic adaptation to life events through self-awareness and acceptance of their LD, appropriate goal-setting and self-directedness and use of effective support systems. Together these studies highlight the possible importance of emotional processes, self-regulation, and self-perceptions of LD may have in determining whether students with LD are able to achieve important outcomes in adulthood.

**Summary.** Overall, the above studies indicate that the factors involved in attaining success for LD students are complex, and are associated with many intrapersonal processes such
as self-acceptance, and self-awareness. These factors have been studied in relation to LD, and were found to have potential importance for the successful adaptation to an LD in adulthood (Gerber, Ginsburg, & Reiff, 1992; Higgins, Raskind, Goldberg & Herman, 2002; Thomas 1991). Indeed, in a survey of the perceived needs of adults living with an LD, Hoffman et al. (1987) found that adults with LD rated accepting their disability as their second highest identified need, and service providers rated it as fourth highest in importance.

Self-Acceptance of Learning Disability

Because of its potential value to understanding the rehabilitative process, there have been multiple research efforts to theoretically understand and measure the process of accepting a disability or chronic health problem (Biesecker et al. 2013; Ferrin, Chan, Chronister, & Chiu, 2011; Livneh & Antonak, 1990; McDonald, Zauszniewski, & Bekhet, 2011; Stuifbergen, Becker, Blozis, Beal & Park, 2008). Within the research literature, self-acceptance as a term is used interchangeably with terms such as adjustment and adaptation. However, exploring the diverse conceptualizations of disability acceptance is outside the scope of this study, and only those research studies that have applied their models to the study of acceptance of LDs will be described.

Self-acceptance of a disability was originally theoretically conceptualized as an acceptance of loss (Dembo, Leviton, & Wright, 1956; Wright, 1983). In Wright’s theory, self-acceptance of disability involves both acceptance of self and disability in a way that is not devaluing. Wright’s theory of acceptance of disability, developed through working with individuals with physical disabilities, has four stages: enlargement of scope of values, subordination of the physique, containment of disability effects, and transformation from comparative to asset values. The first stage involves the individual with a disability enlarging
their scope of values to include areas that are not associated with the area of disability. In the second stage physical image and identity becomes more limited in their importance relative to mental attributes. The third stage is reached when the individual is able to contain the ‘spread’ of the disability. Spread is conceptualized by Wright as the tendency to make unwarranted negative inferences based on one negative attribute such as a disability. When individuals with a disability contain the spread of the disability, they have compartmentalized it and do not perceive it as affecting their other capabilities. The final stage involves transforming one’s values drawn from social comparisons with others to the intrinsic value brought to each situation. To measure this process of acceptance, Linkowski (1971) designed the Acceptance of Disability Scale (ADS) which has been widely used in rehabilitation research. The scale has been used extensively in rehabilitative research with a variety of health conditions, finding positive associations with outcomes such as quality of life, functional health, coping disposition, and psychological resilience (Berglund, Mattiasson, & Nordström, 2003; Groomes & Leahy, 2002; Xia, Kong, Yin, Shi, Huang, & Cheng, 2014; Zhang, Hu, Xu, Zheng, & Liang, 2013). In Bolton’s review of 22 instruments for measuring rehabilitative outcomes, he states “a variety of evidence suggests that the ADS is a valid measure of the construct variously characterized as acceptance of loss, adjustment to disability, and acceptance of disability” (2001, p. 68).

Using a shortened version of the ADS scale with a sample containing a variety of disabilities (13% of which entailed an LD), Li and Moore (1998) found significant positive correlations between acceptance of disability and income, emotional support, and self-esteem. Older, non-married, participants who possessed acquired multiple disabilities and experienced chronic pain reported less acceptance of their disability. Participants who reported more perceived discrimination and were higher on trait hostility also reported less acceptance of
disability. From these results, it appears that a variety of psychosocial factors may influence the process of accepting a disability.

Using an adapted version of the ADS scale to specifically target the value changes based on Wright’s (1983) model that would occur in self-acceptance of an LD, Thomas (1991) found a positive correlation between acceptance of an LD and job satisfaction, time spent employed, work performance, positive recognition of work performance, willingness to disclose having an LD, self-advocacy, salary, and work values. Similarly, Dipeolu, Reardon, Sampson and Burkhead (2002) found a link between dysfunctional career thoughts and poor adjustment to an LD. This suggests a possible relationship may exist between self-acceptance of an LD and developing positive employment outcomes in young adults.

Wright’s model of acceptance of loss is dominant within the rehabilitation research community (Keany & Glueckauf, 1992). However, applying this model to self-acceptance of an LD presents us with several difficulties. Wright’s theory was primarily designed to apply to those with physical disability, and the process of subordinating the physique reflects this. Those with covert disabilities such as LDs will not likely need to undergo this stage. Keany and Glueckauf (1992) have critiqued Wright’s theory on these grounds, suggesting that those with covert disabilities would undergo `subordination of affected values`, where the importance of disability-affected functions would undergo diminished value. For example, a deaf individual may lose value for cultural activities that are most impacted by their disability, such as attending music festivals, despite being an avid musician before the onset of the disability. Despite criticizing its theoretical shortcomings, Keany and Glueckauf (1992) state ``Linkowski’s scale has proved to be an effective measure of broad-based acceptance of disability`` (p. 204).

Self-acceptance of an LD has also been studied within other theoretical frameworks. One
such framework was created by Heyman (1990) in her development of the Self-Perception of Learning Disability (SPLD) scale. The SPLD scale was designed to measure the extent to which children with LD view their disability as limited rather than global in affecting their learning, modifiable rather than permanent, and non-stigmatizing. The SPLD has been found to be significantly positively correlated with self-esteem and academic self-concept (Cosden, Elliott, Noble & Kelemen 1999; Heyman, 1990). Similarly, Rothman and Cosden (1995) found that SPLD scores were positively associated with IQ, mathematics achievement, global self-worth, and increased social support. Although these results are correlational in nature, it appears that children’s positive perceptions of their disability are related to their self-esteem, their intellectual abilities, and academic performance. However, the SPLD framework suffers from some limitations. The reliability of the SPLD is relatively weak with a reported coefficient alpha of .70 (Heyman, 1990). In the Cosden et al. (1999) study, knowledge of an LD was not related to SPLD scores, though this may be related to the age of the participants, or a lack of sufficient variance in scores. Furthermore, the SPLD has only been developed and studied with relatively young LD students, potentially limiting its usefulness for older LD populations.

Researchers have also developed idiosyncratic methods for studying acceptance of disability. Hellendoorn and Ruijssenaars (2000) coded acceptance of LD from transcripts of structured interview data administered with adults with dyslexia, and found an association between acceptance of LD and parental support and hope for realization of goals. This suggests that supportive parents may cultivate acceptance of an LD, and that such acceptance may in turn support hope for achieving goals. In other words, self-acceptance of LD may support self-efficacy. Using an ethnographic approach, Higgins et al., (2002) examined interview data of their twenty-year longitudinal study of adults with an LD. Based on this data, Higgins et al. developed
a five-stage model of self-acceptance of disability with the following stages: (a) awareness of a difference that involved noticing academic and non-academic differences between themselves and non-LD children, (b) the labeling event; (c) understanding/negotiating the label; (d) compartmentalization; and finally (e) transformation. However, the lack of a standardized scale with adequate psychometric properties limits the use of these models.

**Summary.** In summary, from the limited research that has been conducted on the construct of LD self-acceptance it appears that LD self-acceptance may be related to general self-concept as well as academic self-concept. Across studies, the common components of self-acceptance of LD that emerge appear to be an ability to compartmentalize the LD, find positives in the challenge of living with an LD, and self-understanding of the LD. Intrapersonal factors such as age, hostility, and perceived discrimination, and external factors such as income and social support may impact level of LD self-acceptance. Important life outcomes such as academic achievement and employment level may also be related to one’s level of LD self-acceptance. It is important to note that the body of evidence in this domain is limited by small sample sizes, and qualitative and correlational research designs, which restrict the ability to make causal inferences.

Given these results, it is possible that academic self-regulation may also be affected by level of LD self-acceptance. It is also possible other related emotional regulatory processes may be involved. One such process that is related to self-concept and has been given increasing research attention in recent years is self-compassion.

**Self-Compassion**

As conceptualized by Neff (2003a), self-compassion is composed of three components, self-kindness, common humanity, and mindfulness. Self-kindness involves avoiding harsh self-
criticism and instead being kind to oneself when faced with problems. Common humanity is being able to see your own experience as being connected to the experiences faced by other persons throughout time. Finally, mindfulness is being open to and observant of your emotions in a non-judgemental way that does not over-identify you with the emotion. Neff proposed that self-compassion is a less problematic way to enhance the self than self-esteem, as self-esteem in high levels may promote narcissism and ego-defensiveness. To further develop research on this construct, Neff designed the Self-Compassion Scale (SCS; Neff, 2003b), which has been the primary measure used in research on self-compassion. In validating the scale, Neff found that it was positively associated with scores on the Rosenberg Self-Esteem Scale (SES; Rosenberg, 1965), Berger Self-Acceptance Scale (BSAS; Berger, 1952), and the Self-Determination Scale (SDS; Deci & Ryan, 1995). Moreover the SCS was not significantly correlated with scores on the Narcissistic Personality Inventory (NPI; Raskin & Hall, 1979) which also positively correlated with the aforementioned scales suggesting that self-compassion taps into different aspects of these constructs than narcissism. Further, the scale also negatively correlated with the Beck Depression Inventory (BDI) (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961) and the Spielberger Trait Anxiety Inventory (STAI) (Spielberger, Gorsuch, & Lushene, 1970). Given self-compassion’s emphasis on self-kindness, openness and awareness of one’s emotions and maintaining the normativity of one’s reactions to adversity, self-compassion may be an important in regulating emotions and behaviour more generally.

Preliminary evidence suggests that self-compassion may be important in aiding self-regulation. Self-compassion training has been found to help in smoking cessation (Kelly, Zuroff, Foa & Gilbert, 2010), and higher levels of self-compassion are related to greater motivation and engagement in exercise in college women (Magnus, Kowalski & McHugh, 2010). Self-
Compassion is also related to more adaptive problem-solving personal traits such as optimism, being explorative and curious, and in taking initiative (Neff, Rude, & Kirkpatrick, 2007), and is positively correlated with self-efficacy (Iskender, 2009; Smeets, Neff, Alberts, & Peters, 2014). Research has also explored its role in aspects of university students’ self-regulated learning, including goal orientation, procrastination, and motivation.

Self-compassion appears to be positively associated with learning and approach goal orientations (Akin, 2008; Neff, Hsieh, & Dejitterat, 2005). Learning (also known as mastery) orientations focus on mastering the material while approach orientations involve proactively pursuing one’s goal orientation. Research has generally found that students with learning and approach orientations tend to be the most motivated, most persevering, and do best academically (Dweck, 1999). The positive association of self-kindness, common humanity and mindfulness with these same goal orientations suggests that self-compassionate students tend to have achievement goals that lend themselves to higher motivation and academic performance. Neff et al (2005) argue that self-compassionate students may be more likely to be learning-goal oriented due to a lack of fear of failure because of less severe self-criticism, and due to higher perceived competence because of self-kindness.

Research has also found that low self-compassion in university students is associated with experiencing higher levels of negative affect in response to both negative and neutral stimuli, while high self-compassion is associated with accurate self-evaluation of performance and less negative affect (Leary, Tate, Adams, Allen, & Hancock, 2007). This was demonstrated in both their correlational research in which participants reported on their self-compassion using the Self-Compassion Scale and in their experimental research in which participants in a self-compassion induction condition were compared to those in comparison and control conditions.
Their research findings suggest that self-compassion may alleviate negative emotional reactions to events, and may increase the personal responsibility felt for negative events. Leary et al (2007) hypothesized that self-compassionate people may judge themselves less harshly, be more accepting of negative occurrences, and may use cognitive patterns that de-catastrophize negative events. Students with high self-compassion also self-report less academic worrying, less emotionality, and a lower tendency to procrastinate (Sirois 2014; Williams, Stark & Foster, 2008). Longitudinal research examining self-compassion in university students has also found self-compassion to be associated with mood stability and a greater ability to buffer against negative affect in response to stress, as well as an association with greater identity resolution (Hope, Koestner, & Milyavskaya, 2014).

The studies cited above are generally correlational in nature in relating scores on the Self-Compassion Scale to other variables, leading to caution in interpreting cause-effect relations. However, experimental research on the effect of priming self-compassion on motivational processes lends support to the idea that self-compassion may also help students to respond to academic challenges and failure in proactive ways that facilitates improvement and on-task behaviour. In a series of four studies, Breines and Chen (2012) found that university students who were primed with a self-compassionate exercise compared to those in self-esteem priming and control conditions, viewed their weaknesses as more malleable, were more motivated to not repeat transgressions and make amends for them, spent more time studying lists of word definitions for an experimental task, and were more motivated to improve upon their weaknesses. The authors stated “these findings have implications for enhancing coping skills in educational settings. Self-compassion may help students respond to failure in a way that facilitates growth and improvement without leading to debilitating negative affect” (Brienes &
Chen, 2012, p. 1140). In fact, training self-compassion in university students has been found to improve not only trait self-compassion, but also optimism, and self-efficacy (Smeets, Neff, Alberts, & Peters, 2014).

Summary. The above studies demonstrate that self-compassion may play an important role in self-regulated learning by protecting against negative affect generated in response to failure and enhancing motivation to improve. Currently, there is a gap in the research literature in this area, in that no studies were located that examined self-compassion in individuals with an LD. This gap in research is unfortunate, as self-compassion may be an important process for LD students whose motivation suffers in response to negative feelings when encountering their own academic challenges. Further, identity development may also be impacted by self-compassion. Examining the identity of LD students and their experiences with their LD may be an important aspect to explore along with self-acceptance and self-compassion. A better understanding of the complex processes that give rise to self-acceptance of an LD and self-compassion may be gained through what has been called personological inquiry (McAdams, 1998).

Narrative Identity

Narrative identity has been defined as the constructed retrospective stories that individuals have created and integrated from autobiographical memories over time that are used to make sense of the self and to imagine future selves (McAdams & McLean, 2013). McAdams and Olson’s (2010) integrative model of personality posits that personality includes three layers: a core of dispositional traits, which is layered over by characteristic adaptations, which is in turn layered over by narrative identity. In this model, dispositional traits are the first to emerge developmentally. Characteristic adaptations, which are the values and goals of the individual, then develops as individuals gain their own goal-directed thinking and behaviour. Narrative
identity emerges last as individuals attempt to make meaning out of their lives. Empirical research has found that narrative identity and themes associated with it tend to emerge in late adolescence and early adulthood, possibly due to social pressures and cognitive maturation (Habermas & Bluck, 2000; McAdams, 1998). Themes that have been studied on the psychology of narrative identity have included personal agency, and meaning-making. Agency themes are defined by the storyteller being able to affect change in their environment, leading to accomplishments. Meaning-making is the extent to which a person attaches learning to a narrated experience. Evidence from longitudinal studies has shown that narrative themes show stability over time (McAdams et al. 2006).

The thematic content that makes up narrative identity appears to play a role in psychological adaptation. Tavernier and Willoughby (2012) found that the degree of meaning-making in narratives of adolescents’ major life turning-points was significantly associated with a composite scale of psychological well-being composed of depression, anxiety and self-esteem scores. Adler, Skalina, and McAdams (2008) found that former psychotherapy patients whose retrospective narratives of therapy contained themes of agency were more likely to experience more subjective well-being. Thus, thematic content in narratives is an important subject of study in relation to psychological outcomes.

The narratives of individuals with an LD have not been studied extensively in the life-story research literature. The qualitative studies that do exist have already been discussed above (e.g., Spekman, Goldberg & Herman, 1992). Some thematic content appears to emerge in these studies. For example, as was described above in the longitudinal study by Higgins et al., self-acceptance seemed to reach a peak in those LD adults who had transformed their LD status into a positive. In other words, their narratives seemed to demonstrate meaning-making and agentic
themes, leading to positive outcomes such as self-acceptance of their LD.

Another study by Gerber et al. (1992) found thematic content that arguably contains meaning-making and agentic themes. In a study designed to investigate the factors associated with adults who have had highly positive outcomes, the authors interviewed 71 highly successful adults with an LD who were selected through a nomination process from various LD organizations in North America. Success was defined across the variables of the social status of employment, income level, education level, job satisfaction and prominence in one’s field. Thematic analysis of the interviews uncovered a single broad theme with numerous subthemes. The overarching theme was defined by the authors as the participants’ quest for control over their own life. The subthemes included being goal-oriented, being adaptable (i.e. being persistent, having coping mechanisms), having a good fit between abilities and one’s environment, possessing social support, and planning helpful experiences for oneself. Notably, one important subtheme the authors called a ‘key process’ (p. 481) was what the authors termed reframing. The authors defined reframing as reinterpreting the LD experience as being positive, and included the stages of recognizing their differences from others, accepting those differences, understanding their own differences, and finally taking action to foster success given the challenges they had. The authors’ definition of reframing bears a close resemblance to the agency and meaning-making themes outlined above, and may have positively influenced the successful LD adults in their quest to gain control over their lives. The authors also argued that the more the control that was needed by the participants, the more success they seemed to attain. This theme along with the subthemes of persistence, being goal-oriented, and planning experiences appears to bear resemblance to self-regulated behaviour. From this study it appears that the more self-regulation and agency appeared as a theme in the interviews of individuals
with an LD, the more likely they were to achieve success.

McNulty (2003) focused entirely on the life story narratives of a sample of 12 adults with dyslexia who were diagnosed in childhood. Each participant was interviewed about their life story, and had the transcripts of their interviews analyzed using Atkinson’s method of narrative analysis. Each narrative was compared to one another to find commonalities. Such commonalities included a prologue in the life story that tended to consist of noticing early difficulties socially and academically, and a feeling that oneself was somehow different from others. The life stories exposition involved dealing with failure and negative feedback about school performance, which sometimes resulted in the experiences being humiliating and traumatic, one such common experience being called on to read in class. Testing was also felt to be traumatic in the stories told by the participants, as they confirmed participants’ fear that something was flawed within them. The plots of the life stories then revolved around dealing with the implications of their dyslexia, and the negative effect it had on their self-worth. The secondary challenge for the participants revolved around finding a niche in adolescent or young adulthood where they could succeed either academically or in their careers. This was a critical stage that profoundly affected their subsequent life experiences. This led to the resolution phase of their life stories, wherein each participant compensated for their LD to varying degrees. McNulty notes that there was a lingering level of insecurity and low self-esteem in the contemporary lives of the participants, suggesting that their psyches did not emerge from their past difficulties unscathed.

Fleischmann and Miller (2013) investigated the life stories of adults with AD/HD. Specifically, they analyzed the online life story narratives posted on a variety of websites using the narrative analysis methodology of Labov and Waletzky (1967), a technique used to find
commonalities between textual units, meanings and underlying themes. A total of 40 narratives were selected, and they were all drawn from adults who had been diagnosed with AD/HD after adolescence. The authors identified certain commonalities across the life stories. These included a beginning in most narratives that described confusion about what was wrong with them throughout their lives, as well as an attempt to reframe their AD/HD as not being entirely negative, but also carrying with it the possibility of hope for success. The second theme that typically follows is that of coping, and the family and friends who both support and are impacted by the narrators’ AD/HD. The narratives also described difficulties at school, social challenges, parental conflict, unemployment, romantic relationship conflict, and psychological problems. Finally, a theme of enlightenment emerged from the narratives when self-understanding was finally achieved. The narrators then absolved themselves of the guilt and self-blame they earlier experienced. The life stories ended with a change in the narrators ‘self-perceptions, and they wrote about improvements in their subsequent life functioning. Fleischmann and Miller argue that the narratives they analyzed show that diagnosis allows for a change in narrative for adults with AD/HD wherein negative self-perceptions can be transformed to allow for new possibilities.

It is possible that changes in the construction of life stories may change our motivation.

Research has demonstrated that core personality traits may be related to self-regulated learning (Kirwan, Lounsebury, & Gibson, 2014). However, research on the possible influence of narrative identity on self-regulated behaviours is scarce. Emerging research in this area suggests that certain themes within an individual’s narrative identity, specifically agency and meaning-making, may be related to a variety of positive outcomes, such as psychological adaptation, and life satisfaction. Further, there is some primary evidence that self-acceptance themes in the narratives of persons with an LD may be related to ‘life success’ more broadly. A possible
relation between self-regulated learning in students with an LD and the narrative themes of self-acceptance of disability, agency, and meaning-making, has yet to be examined.

**The Present Study**

Self-regulated learning is a key component to achieving success within a post-secondary academic environment. Students with an LD could be expected to reap more benefit from making effective use of self-regulated learning due to the variety of cognitive processing deficits they possess. However, the research reviewed on students with an LD has found their skills to be weak in this domain, as they are more likely to procrastinate, are less academically motivated, demonstrate less persevering in the face of failure, and have less self-efficacy to engage in self-regulation of their learning. Emerging research evidence suggests that personality differences may be related to individual differences in self-regulated learning. Correlational and qualitative studies on individuals with an LD have indicated that self-acceptance of an LD may be associated with increased self-worth, academic self-concept, self-efficacy, mathematics achievement, and work performance. Similarly, correlational and experimental research on self-compassion demonstrated its positive effect on a variety of constructs related to self-regulation, such as self-efficacy, coping with failure, increased motivation and decreased procrastination. Finally, themes within narrative identity such as meaning-making and agency appear to be related to positive outcomes such as psychological adaptation and life satisfaction. These results point to the importance of personality and self-perception as influential variables affecting self-regulation. However, no study was found that examined self-acceptance of an LD and its possible connection to self-regulated learning. Further, no published research studies were found on self-compassion in persons with an LD and how it may affect their coping with a LD. Additionally, the life story interview method developed by McAdams (2008) has yet to be used.
with the population of persons with an LD, and no study identified investigated themes within life story narratives in relation to self-regulated learning. In addition, no previous research has examined how individuals with LDs perceive and experience their LD through the life story interview method. This leaves an important gap in the research literature that has clinical relevance to improving the lives of students with LDs. If self-acceptance of an LD and self-compassion are related to self-regulated learning, it may be possible to improve the academic achievement of students with LDs by increasing the levels of these constructs.

The purpose of this study was to investigate how self-reported self-acceptance of LD, self-compassion, academic achievement and self-regulated learning of university students diagnosed with LDs relate within a nomological network. Furthermore, this study is the first to describe self-compassion in a population of students with LDs. In addition, this study explored the high points, low points, and turning points of students’ lives, and particularly learning disability experiences, as narrated by them in order to better explore how their narrative identity related to the aforementioned qualities. Narrative identity was assessed in individual structured interviews using an adapted version of McAdams Life Story Interview (McAdams, 2008) that included items specifically reworded to capture high point, low point, and turning points in the participants’ experience of their LD. The resulting transcripts were coded for the themes of agency, acceptance of learning disability, and meaning-making. Due to the dearth in the literature previously examining this domain and in order to provide a sense of what participants viewed as their own high/low/turning points and potentially yielded themes of agency, meaning-making and disability acceptance, the participants’ responses to the LD-focused interview items were coded via inductive content analysis. Academic achievement was measured via self-reported GPA. Given that participants’ level of positive and negative affectivity may affect their
responses, this was assessed as a control variable using the Positive and Negative Affect Schedule – Short Form.

Several hypotheses were tested:

1) In keeping with McCombs’ (1986, 1990) model of the ‘self-system’ and based on previous work finding positive correlations between self-acceptance of an LD and other self-perceptions, self-acceptance of disability may result in lowered discrepancies between an ‘ought-self’ and the perceived ‘actual self’ when encountering academic challenges, resulting in less negative affect generated in response to challenges and an increase in adaptive coping and motivation. Thus it was hypothesized that self-acceptance of LD would be positively correlated with self-regulated learning.

2) Self-compassion may also provide another mechanism by which the negative self-perception of academic ability could be contained for a student with an LD, by providing self-kindness to limit harsh critiquing of performance, linking weakness to being a common trait shared by many, and mindfully coping with negative emotions rather than becoming inhibited by them. Due to evidence that supports the broadly positive association of self-compassion with other self-regulatory constructs, it was hypothesized that self-compassion would be associated with increased self-regulated learning.

3) The origins of individual differences in self-acceptance of an LD and self-compassion are currently unknown and likely to be causally influenced by a complex variety of biopsychosocial factors. However, their self-reflexive nature suggests that individual variation may arise partially from the integration of life experiences into an evolving storied self. The content of these narratives may have a relation to self-compassion and self-acceptance when they emphasize the individual self as an agent of positive change, when acceptance of an LD is
integrated into the story of self, and when meaning is gleaned about the events occurring to the person. It is also possible that agentic themes may be related to increased capacity for self-direction in everyday life, and that meaning-making may result in an individual having a more developed personal ideology, resulting in increased motivation and goal-setting (McLean, & Pratt, 2006). It was hypothesized that themes of agency, acceptance of LD and meaning-making within the life-story narratives would be significantly correlated with self-acceptance of LD and self-compassion.

4) Finally, it was hypothesized that self-acceptance of an LD and self-compassion would be associated with higher levels of self-reported GPA, and that these relations will each be mediated by self-regulated learning. A model of these hypothesized relations can be found in Appendix A.
Methods

Participants

Participants consisted of a sample of 67 undergraduate and 11 graduate students who self-reported as having an LD. They were recruited primarily from the University of Guelph, with a few participants from nearby universities. Three additional participants had completed the survey in very limited time, suggesting the responses were not valid, and they were dropped from the study. The sample consisted of 27 males and 49 females with 2 participants not reporting their gender. Participants reported a mean age of 20.99 years (SD = 3.81). The sample’s reported ethnic groups were as follows: 84.60% White, 5.10% Asian, 2.60% Black, 2.60% Middle-Eastern, 1.30% Hispanic, 1.30% First Nations, 1.30% South Asian, 1.30% Multi-Racial, and 1.30% Other. Students varied in their year of study of their bachelor degree, with 38.50% in their first year, 19.20% in their second year, 17.90% in their third year, 10.30% in their fourth year, 7.70% in over four years of study, 5.10% pursuing a Masters level degree, and 1.30% pursuing a Doctorate level degree. The proportions of each type of majors reported by participants are as follows: 52.6% in Social Sciences, 23.1% in Science/Technology/Engineering/Mathematics, 9% in Humanities, 5.1% in Business, and 2.6% in Fine Arts. The proportion of LD types that were endorsed by participants were as follows: 70.50% attention deficit/hyperactivity disorder, 38.50% slow processing speed, 29.50% memory deficits, 19.20% writing disability, 17.90% reading disability, and 14.10% mathematics disability. Most participants reported possessing multiple co-occurring LDs, with 34% of the total sample reporting possessing only attention deficit/hyperactivity disorder.

A sub-sample of 20 participants was included in the interview portion of the study. This sub-sample consisted of 17 undergraduate students and three graduate students, seven males and
12 females and one participant not reporting their gender. The sub-sample’s self-reported ethnicity was as follows: 90% White, 5% South Asian, 5% Hispanic. The sub-sample’s progress in their studies also varied, with 30% in their first year, 10% in their second year, 30% in their third year, 15% in their fourth year, 5% in their fifth year or higher, 5% pursuing a Masters level degree, and 5% pursuing a Doctorate level degree. The proportions of each type of majors reported by participants were as follows: 60% in Social Sciences, 20% in Science/Technology/Engineering/Mathematics, 5% in Humanities, 5% in Business, and 5% in Fine Arts. The proportions of the sub-sample with types of LDs that were endorsed by participants were as follows: 80% attention deficit/hyperactivity disorder, 35% slow processing speed, 35% memory deficits, 20% writing disability, 5% reading disability, and 15% mathematics disability. As in the full sample, most interview participants reported possessing multiple LDs, with 38% reporting possessing only attention deficit/hyperactivity disorder.

**Materials**

**Self-Compassion Scale (SCS).** This 26-item self-report scale by Neff (2003b) is purported to measure her conceptualization of self-compassion and yields an overall self-compassion score. Items include positively worded items such as “I try to be loving towards myself when I’m feeling emotional pain” and “I try to see my failings as part of the human condition.” as well as negatively worded ones such as “When times are really difficult, I tend to be tough on myself” and “I’m intolerant and impatient towards those aspects of my personality I don’t like”. This overall score can be calculated by reverse scoring the negative items and adding them to the positive items for a total score, and this total score can then be divided by the total number of items for an equivalent value of a smaller scale. Based on analysis of participants’
responses, the overall self-compassion score contained good reliability ($\alpha = .91$), which is consistent with the reliability reported in the published literature (Neff 2003b; $\alpha = .92$).

**Self-Acceptance of Disability Scale – Abbreviated (SADS).** This self-report scale was shortened by Li and Moore (1998) from its original 50-item scale that was designed by Linkowski (1971) to a 10-item scale that assesses the general construct of self-acceptance of a disability, and is based on Wright’s psychosocial stage model of disability adjustment (Wright, 1983). Linkowski’s (1971) original 50-item scale possessed a high internal consistency ($\alpha = .92$) and is a broad-based measure of a general acceptance of disability construct. This scale was further reduced to nine items in this study in order to arrive at acceptable reliability ($\alpha = .77$), which is consistent with the reliability reported by Li and Moore (1998; $\alpha = .79$). Sample items from these nine are “My learning disability prevents me from doing things I want”, “I feel OK talking about my learning disability with others” and “My learning disability has disrupted my life greatly”.

**Motivated Strategies for Learning Questionnaire (MSLQ).** The MSLQ (Pintrich, Smith, García, & McKeachie, 1991) was designed as an 81-item self-report scale that tests university students self-regulated learning abilities. Although composed of 15 subscales, only six were selected as most relevant for the current study due to their focus on behaviour regulation as well as to reduce participant fatigue: Organization, Metacognitive Regulation, Time and Environment, Effort Regulation, Elaboration, and Self-Efficacy for Learning and Performance (SELP). The MSLQ is designed to measure self-regulation of learning at the course-specific level. For the present study, the language of test items was modified to be applicable at the general level (e.g. “I believe I will do well in this course” was modified to “I believe I will do well in my courses”). Studies that have investigated the context-specificity of using the MSLQ at
the course-specific and general level have found no appreciable psychometric differences (Rotgans & Schmidt, 2009) indicating that the MSLQ has validity for use at the general level. Two scores were derived from the MSLQ to reflect self-regulation of learning. Organization, Metacognitive Regulation, Time and Environment, Effort Regulation and Elaboration were summed into a composite score as they all fell into the category of the ‘Learning Strategies’ of the MSLQ. As examples, items stated “When I study the readings for courses, I outline the material to help me organize my thoughts”, “During class time I often miss important points because I'm thinking of other things”, “I usually study in a place where I can concentrate on my course work.”, “If course readings are difficult to understand, I change the way I read the material” and “I work hard to do well in class even if I don't like what we are doing.”. SELP was left as a stand-alone variable to assess motivation for the use of learning strategies. Sample items include “I believe I will receive excellent grades” and “I'm certain I can master the skills being taught in my classes”. Both the composite Learning Strategies (α = .82) and SELP scales (α = .91) proved to possess adequate reliability in the present sample.

**Positive and Negative Affect Schedule – Short Form (PANAS - SF)**. The ten-item PANAS (Thompson, 2007) is a self-report designed to assess positive (e.g. ‘Inspired’, ‘Active’) and negative trait affectivity (e.g. ‘Upset’ ‘Nervous’) in research participants. To control for the effect of negative affectivity, the five-items measuring Negative Affect (α = .72 in the present sample) were used. In the subscale measuring Positive Affect did not meet an adequate level of reliability (α = .58 in the present sample) and thus was not included in further analyses.

**Life-Story and Learning Disability Interview**. Based upon McAdam`s theory of narrative identity (McAdams & McClean, 2013), the structured interview questions were adapted from McAdam`s Life Story Interview. Content included a high-point, low point, and turning-
point event in open-ended questions that related to the participants’ general life story and their learning-disability specifically. An example of the latter would be ‘Tell me about a turning point that occurred in living with your learning disability. A positive and a negative general early life event were also elicited for analysis. For the text of the interview items refer to Appendix B. Responses were coded for the presence of two of the life-history constructs found in the coding schemes that McAdams (1998; 2001) and McLean and Thorne (2001) have developed, specifically meaning-making and agency. The narratives were also coded for themes of self-acceptance of the learning disability, including identity/general-acceptance of the learning disability, empowerment based on the learning disability, relational acceptance of the learning disability, insightful acceptance of the learning disability, containment of the learning disability, and self-norms/standards. Each of these themes will be described in further detail under the coding section below.

Procedure

Participant recruitment. For the study 52 participants were recruited via poster advertisements within university service centers for disabled students as well as various areas on campus grounds. An additional 29 students were recruited from students enrolled in introductory psychology participant pools. Those students who chose to participate followed a link to an online questionnaire provided to them either from the recruitment poster or the participant pool. The complete questionnaire appears in Appendix C. Following the completion of the questionnaire, participants were e-mailed a Tim Horton’s gift certificate worth 10 dollars, and 66 participants indicated whether they were willing to participate in the Life Story and Learning Disability Interview portion of the study. Of the 66 who indicated that they were willing to participate, 38 were contacted via email in the order of the participants’ questionnaire.
completion, starting with the first participant to complete the online questionnaire. The email invited participants to come into an on-campus lab to be interviewed. Of the 38 individuals that were contacted, 20 participants responded and appeared at the scheduled interview. Following interview completion, participants were debriefed on the purpose of the study and provided with a 15 dollar cash incentive.

**Data collection.** The online questionnaire contained items measuring demographic information as well as the SCS, SADS, Positive and Negative Affective Schedule – Short Form (Negative Affect subscale), and selected subscales from the MSLQ. In addition to these measures, participants were asked to self-report their GPA thus far in their studies. Participants chose to report their grade point average (GPA) using a 4.0 scale and as a percentage. To maintain a consistent response format across participants, those participants who used a 4.0 scale had their self-reported grades converted to a percentage using a method provided by the University of Guelph’s registrar (https://www.uoguelph.ca/registrar/sites/undergraduate/files/docs/gpaug.pdf).

The life story interview was conducted in an in-person format at the researchers’ on-campus lab. Each interview had a duration of approximately 30 to 45 minutes. For the text of interview items, refer to Appendix B. As the interview was semi-structured, participants’ responses were often followed by prompts by the interviewer to encourage elaboration, with prompts focusing on eliciting participants’ feelings, thoughts, and understanding of their experiences. Interviews were audio recorded for later transcription and coding.

**Coding.** Coding of the material provided in the Life Story Interview followed the coding systems devised by McAdams (1998; 2001) and McLean and Thorne (2001) as well as one devised by the study authors to detail the theme of self-compassion. Two coders examined the transcripts for the presence of the themes of agency, meaning-making, and acceptance of disability. The presence of these themes was determined by matching expressions within the stories told by participants with the categories of the selected themes that were defined by McAdams, McLean and Thorne, and by the study authors. The
greater the presence of these themes, the higher the participant’s score. Inter-rater reliability was established by having a second rater independently analyze each of the transcripts for the presence of each theme. Following coding of themes, the raters reviewed all the transcripts for disagreement, discussed any disagreement in coding, and came to a mutual consensus on the scoring. The themes and coding systems are described in detail below.

**Coding for acceptance of disability.** The coding scheme for themes of acceptance of disability was partially developed from Wright’s (1983) theory of disability acceptance. A wide range of themes were included in this coding scheme to capture the variety of ways self-acceptance of a learning disability may be disclosed in the interviews. These themes included: Identity/General Acceptance, LD Empowerment, Relational Acceptance, Insightful Acceptance, Containment, and Self-Norms/Standards.

- **Identity/General Acceptance** of a learning disability entailed the participant explicitly stating any of the following: that they have accepted their learning disability, that the disability is a part of their identity, that they feel comfortable talking about it with others, and that they are not embarrassed by it.

- **LD Empowerment** entailed a participant expressing a sense of strength garnered from the experience of possessing a learning disability, which may include increased determination, resolve, or a sense of pride.

- **Relational Acceptance** entailed a sense of increased empathy, compassion, or understanding of others based on their experience of having a learning disability.

- **Insightful Acceptance** involved the participant describing an understanding of their learning disability’s negative impact on their academic, occupational and/or social functioning that leads to a constructive result.
• Containment was a theme borrowed from Wright (1983), wherein the individual was able to understand how the disability affects only limited aspects of him or herself, without it generalizing to functioning as a whole. This theme was coded when the participant describes areas of competence outside of their disability or that compensate for their disability.

• Self-Norms/Standards is also a theme from Wright’s (1983) theoretical framework, wherein the participant expresses a measure of worth in their own values/expectations, rather than through comparison to others’ standards or expectations.

For each of the above themes found within a participant’s answer to an interview item, the rater added a point to the score of Disability Acceptance, for a possible range of scores from 0 to 6 for each of the five general life events and three LD-specific events and added to create one disability acceptance score.

**Coding for agency.** Coding for themes of agency followed McAdams (2001) coding system. According to McAdams, the theme of agency is composed of four aspects: Self-Mastery, Status/Victory, Achievement/Responsibility, and Empowerment.

- Self-Mastery themes include the protagonist striving to master, enlarge, control and enhance the self successfully. This is often expressed through sudden insights into their identity or a dramatic new sense of control that facilitates the protagonist’s ability to achieve an improvement to the self.

- Status/Victory themes involve a competitive win for the protagonist that grants them a special honor or recognition over others.
Achievement/Responsibility themes are defined as when the protagonist successfully accomplishes important tasks/goals, or takes on important responsibilities that grant them pride and a sense of achievement.

Empowerment themes occur when the protagonist associates with something larger or greater than themselves, granting the protagonist a higher sense of themselves and their purpose.

For each of the aforementioned themes that was expressed in a participant’s narrative, the coders added a point to the participant’s agency score, thus making a possible range of 0 to 4 for each of the five general life events and three LD-specific events and added to create one life story agency score.

**Coding for meaning-making.** The coding for meaning-making followed McLean and Thorne’s (2001) coding system. Meaning is coded in this system when the protagonist reflects on a lesson or insight from the narrative. For a lesson to be coded, the protagonist must express that learning something specific and concrete after reflecting on the content of the narrative. Insight is a higher-order level of learning that can be scored as present when the protagonist learns something that can be applied to many areas of their life, rather than just a specific behaviour. No meaning-making is scored when the participant does not attempt to explain the meaning of the narrative. Thus, a score of zero is assigned for no meaning, 1 for a lesson, and 2 for an insight for each of the five general life events and three LD-specific events and added to create one life story meaning-making score.

**Coding events in the LD narratives.** In addition to coding life story themes, the participants’ responses to the LD-specific interview items (i.e. the high point, low point, and turning points in the participants’ experience of their LD) were coded according to the kinds of
events associated with their learning disabilities that participants narrated to potentially yield the themes of agency, meaning making and self-acceptance noted above. These categories were generated using an inductive content analysis (Elo & Kyngas, 2008).

Using this approach, a total of sixteen themes were generated. These themes included: academic difficulties, academic achievement, other achievement, teacher interactions, social stigmatization, social acceptance, perceiving the LD as a positive, intrapsychic/self-perception issue, medication, learning strategies, academic accommodations, academic failure, diagnosis, employment issue, accidental event, and cannot recall event. These themes were examined for overarching dimensions (e.g. ‘academic difficulties’, and ‘academic achievement’ both entail academic issue and performance), and collapsed into eight general higher-order categories. Each interview item was coded with a discrete category; multiple categories were not coded per item. For definitions of each category, please see Appendix E.

- Academic Issues included academic difficulties, academic achievement, and academic failure.
- Social Issues included events relating social stigmatization and social acceptance.
- Intrapsychic/Self-Perception Issues included perceiving the LD as positive, diagnosis, and changes in self-knowledge and understanding.
- Intervention Issues included medication, learning strategies, and academic accommodations.
- The remaining themes of ‘Other Achievement’, ‘Teacher Interaction’, ‘Employment Issue’, ‘Accidental Event’ and ‘Cannot Recall Event’ were left as stand-alone categories.
A second rater coded 55% of the categories to establish inter-rater reliability. Coding of
the participants’ interview responses to LD-specific interview items were found to be congruent
with inter-rater reliability, Kappa = .85, p < .001, 95% CI [.68 – .99]. These categories were not
associated with the study’s hypotheses and included solely for descriptive purposes to explore
the content of the events to which participants attached self-acceptance, meaning-making and
agency. As such, these categories were not included in subsequent quantitative analyses.
Results

The results are divided into two sections. The first section contains a discussion of the raw data as well as descriptive statistics on participant self-report measures. The second section contains information on the relations between questionnaire measures and Life Story and Learning Disability Interview themes.

Data Diagnostics

Inspection of the online record of time taken to complete each questionnaire revealed that three participants completed the online questionnaire in an extremely short amount of time, suggesting that they likely had not read instructions or responded accurately, and thus their data were dropped from the analyses. The detection of outliers in the remaining 78 responses was conducted via Tukey’s method of using interquartile ranges (1977) with an applied constant of 2.20 as suggested by Hoaglin, Iglewicz, and Tukey (1986). No outliers were detected using this method. Questionnaire scales were examined for skewness and kurtosis (see means and standard deviations in Table 1). Skewness values above 1.00 were judged as significantly skewed. None of the study variables were found to be significantly skewed according to this rule. In addition, skewness and kurtosis values were all less than twice the value of their standard error of measurement, indicating that test variables did not violate assumptions of normality. Some of the scales displayed negative levels of kurtosis, indicating relatively high levels of variability in these scales. Missing data was found for one undergraduate participant, where a single response item for the MSLQ was left blank, as well for another undergraduate participant who did not report GPA. Thus, the analyses of the MSLQ and GPA will vary from 76 to 77 depending upon what variables are entailed. Preliminary analyses of the relation of age and male/female gender
with outcome measures did not reveal any significant relation between these variables, and thus they were not considered in subsequent analyses.

**Correlations between Negative Affect and Scores from Self-Report Surveys**

As the full sample contained graduate participants and one might argue that their grades may not fall along the same scaling as that of undergraduates, Tables 2 and 3 present the intercorrelations of the self-report variables with and without graduate students respectively to allow readers to compare the values. Only participants in their first, second, third and fourth year of undergraduate study were included in all subsequent analyses of self-reported GPA (n = 66).

Examination of zero order correlations (see Table 2) between the PANAS-SF and scores from the self-report surveys revealed significant associations between negative affect and several variables. Specifically, there was a significant negative association with SADS scores \( r = -.47, p < .001 \) as well as SCS \( r = -.56, p < .001 \). In contrast, there was no significant relation with the Learning Strategies scale \( r = -.21, p = .06 \), SELP scores \( r = -.21, p = .07 \), or self-reported GPA \( r = -.17, p = .18 \). Thus, when relevant, the potential effect of negative affect was controlled for in the analyses.

**Relation between Self-reported GPA and Scores from Self-Report Surveys**

Regardless of whether the scores from the 11 graduate students were included, SADS scores had no significant relation with self-reported GPA. Similarly, SCS had no significant relation with self-reported GPA. However, self-reported GPA had a significant positive correlation with SELP scores \( r = .31, p = .01 \) for undergraduates only, and \( r = .27, p = .02 \) for the entire sample; \( r^2 = .096 \) and .07 respectively) as well as Learning Strategies scale \( r = .40, p = .001 \) for undergraduates only, and \( r = .28, p = .01 \) for the entire sample, \( r^2 = .16 \) and .08 respectively).
Testing Indirect Effects of Self-Reported Study Variables on Self-Report GPA

As shown in Table 2, the Learning Strategies scale was significantly positively correlated with SADS ($r = .35, p = .002$) but did not correlate with the SCS ($r = .15, p = .19$). Mediation analyses were not conducted on the latter variable. As the size of the sample indicates that power may be of concern, bootstrapping procedures were followed as recommended by Hayes and Scharkow (2013). However, due to the increased likelihood of false-positives using this procedure, the more conservative Sobel test was also included in the analyses. Thus, to investigate whether an indirect relation existed between SADS scores and self-reported GPA mediated by the Learning Strategies scale, a mediational analysis was conducted using Preacher and Hayes (2004) method of bootstrapping using the PROCESS macro for SPSS developed by Hayes (2013).

The first mediational analysis conducted included only undergraduate students (see Figure 2). The standardized indirect effect was $(.41) (.40) = .16$. The significance of this indirect effect was tested using bootstrapping procedures and the Sobel test. Standardized indirect effects were computed for each of 5,000 bootstrapped samples. The bootstrapped standardized indirect effect was small in size, $b = .15, SE = .09$ 95% CI = .02, .36, and was found to be statistically significant using the Sobel test, $z = 2.23, SE = .08, p = .02$, providing evidence of an indirect effect. The proportion of variance accounted for by the indirect effect was small ($r^2 = .02$). Thus, increasing self-acceptance of disability as measured by the SADS was associated with approximately .15 points higher self-reported GPA as mediated by self-regulated learning or scores on Learning Strategies scale, with approximately two percent of the variance explained in GPA by this indirect effect. This mediational analysis was repeated using the entire sample (see Figure 3). The standardized indirect effect was $(.38) (.28) = .10$. The significance of this indirect effect...
effect was tested using bootstrapping procedures and the Sobel test. Standardized indirect effects were computed for each of 5,000 bootstrapped samples. The bootstrapped standardized indirect effect was significant, $b = .10, SE = .06$ 95% CI $= .01, .28$, however the effect was non-significant using the Sobel test, $z = 1.87, SE = .05, p = .06$, suggesting that the magnitude of the indirect effect was diminished with the inclusion of graduate students. The proportion of variance accounted for by the indirect effect was likewise reduced ($r^2 = .00$). Thus, when including the entire sample, the evidence for an indirect effect of self-acceptance of disability on self-reported GPA is reduced substantially to a negligible amount.

**Learning Disability Interview Events**

Using the inductive content analysis approach, high point, low point and turning point narratives relating to the participants’ responses to the LD-specific portion of the life-story interview were coded for the general nature that the event narrated. As an overview, high point narratives related to Academic Issue (45%), Intrapsychic/Self-Perception Issue (30%), Other Achievement (15%), Intervention Issue (5%), and Social Issue (5%). Low point narratives most often dealt with Academic Issue (60%), followed in frequency by Teacher Interaction (15%), Social Issue (15%), Employment Issue (5%), and Accidental Event (5%). Turning point narratives most often entailed talking about an Intervention Issue (55%), or an Intrapsychic/Self-Perceptual Issue (40%). One individual (5%) could not recall an event or situation regarded as a turning point in his/her life with a LD.

**High points.** The high point LD-specific interview responses primarily related events and experiences of academic issues. These academic issues were wholly focused on positive academic accomplishments of the participants. These accomplishments often took the form of achieving a high
grade, such as on a test, final course mark, or GPA. One participant combined gaining high grades with a feeling of accomplishment from gaining admission to university:

“I guess a high point would be when I was accepted to university. Just kind of thinking I was able to get like, people told me I would not be able to do it, I even had a teacher in high school who said I wouldn’t get into university … it was kind of like, even with all the stuff I’ve gone through before in education, being in a behavior management class, having a learning disability, being told I couldn’t do things, I was able to graduate high school with an above average mark, like above average average [repeated], so it was like [I] got into all the universities I applied to, I didn’t get into one college I don’t know why, every other university I applied to except for just one, no idea why. [I] Was able to do it, [and] was just really happy”

Participants’ high point responses also focused on perceiving their LD in a positive way and seeing that it provides them with a unique skill or ability. As an example, a participant with self-reported Central Auditory Processing Disorder reported that certain social skills improved as a result of their LD:

“I feel like someone who is disabled in something that is a normal thing … they’re going to have a greater ability in something else that isn’t as normative but they’ll be better at it … so like for me personally, I think that having all these puzzles pieces missing has really taught me to be very observant of like body language and lip reading and different things … I’m good at reading people and know what kind of person they are when I meet them”

Other participants included accomplishments outside of academics, which fell under ‘Other Achievement’. One such participant focused on employment achievement in relation to his LD:

“I got a job in second year university in the summer working for a friend of my dad’s, he owns a pool company, anyways, I started working for him and he told me I was only on a two month basis but I had a four month summer so I was like, what am I going to do for the other two months? I got assigned to a work truck with some guy who was about 40 years old and he had been working there for two years before that. I ended up taking his job by the end of the year, so my job went from two month to four month and that guy was out of a job. That was a big deal for me because, y’know, he, the boss had said, I was driven, focused, all that stuff, all the stuff I was told I wasn’t supposed to be and I never felt I was.”
**Low points.** Regarding low points, academic issues, and more specifically academic difficulties unsurprisingly dominated participants’ responses. These often included childhood memories of frustration with learning particular subjects, failing tests, and receiving poor grades on report cards. One participant spoke of difficulty with regulating his learning appropriately:

“It was the moment I found out nothing I’ve done, nothing in the past works, nothing, everything I’ve done up to this point, almost none of it helps me be productive by myself, none of it is conducive to me to go to school by myself and be able to look at this piece of paper and study. […] I just couldn’t do it, and I just couldn’t it was so frustrating it was like I know I have to do this, but there’s that youtube video that I was watching or there’s just like, I’m on my computer and I’m on Facebook and I’m like […] why am I on Facebook? and just one more page […] and then I would start reading the thing and my brain would not process and I would read it and [ask myself] what did I read today? I have no idea, I have no clue what’s happening at all at any of this stuff and the only thing I know is from lecture and it was just crushing.”

Other participants had negative experiences with teachers that left a significant impression on them. For example, a participant related this interaction with a former teacher:

“It was like one of the first or second weeks of grade twelve I was in the GED or GLD, GLD I think, learning disabilities room back in high school and my SERT, the head of, the department, was just sitting in the room and I was looking at my marks on the school’s computers, she saw my marks and she was like ‘what do you want to do after high school?’ and I was like, oh I really want to go to university, and she looked at my marks and she said you are not going to, if you do you’ll take five or six years here, and I was like, no! I’m doing this in one year, sorry lady, nope. That was a low point though because that was like, my teacher telling me ‘nope, no you’re not doing anything you want to do, you’re not supposed be successful.’ And that’s like, your teacher telling you that? […] ouch. Even if you know it’s not true, your teacher is supposed to be helping you achieve higher academic standings and she’s saying no, you’re going to suck at life. It’s a little, little bit painful.”

In addition to events related to academics, participants also reported painful social situations that related to their LD. One participant recalled being teased by other students for having an LD:

“So one of the low points probably with that, having a disability, was I remember this one person I can’t think of their name, they told me I couldn’t do stuff because of the disability, like I’d never be a smart as anyone else, or I’d never do that, and I remember getting really, it was some other kid in my class […] so I remember that really upset me and kind of like, discouraged me I guess from school, cause you take things seriously like that, when people say that when your younger, so I remember getting really mad and I punched him and I got like suspended from school.”
**Turning points.** The turning points that participants recalled primarily involved either how they were able to use specific interventions, such as medication, learning strategies, and academic accommodations, to overcome their LD, or involved changes in how they perceived themselves and their LD. One participant spoke of the change in her self-regulation and self-criticism following medication for her AD/HD:

“So he prescribed me Vivance and I started that a little after finals of first year and had been on it since so almost a year now and […] it was clarity, it was like when people say they’re enlightened, and it was just kind of realizing like, that’s when I was so upset all the time I was constantly mad at myself and I never realized that like the thoughts or the voices in my head were like, when you’re talking to yourself, how negative […] and I realized, now I have the time because I wasn’t constantly like directing myself do this do this, like I could just tell myself to do the task and I would do that and I would have the mental time to realize and like, wow why am I yelling at myself? Why did this one little thing take so long before? Why couldn’t I have listened to lecture and type notes at the same time before? It was like a weight off my chest”

Other participants focused on how changes to their learning strategies were turning points:

“It’s your working memory […] because it’s like forgetfulness and stuff and you need a routine, you need a list. You need like, you need to get things ready in advance and blah blah. And I just sort of like, I have this under control now I need to move onto the next thing, I have this and I need to move on to the next thing. I think it was actually me doing pretty poorly in that course that I should have done well in, and I needed to do well in and I didn’t, that made me realize like, nobody is going to change this for you and you want to be successful.”

Finally, other students changed their perceptions of themselves as a result of the diagnostic event:

“I ended up doing an assessment, and that’s when I found out I [had] LDs, and the ADHD and all that. And […] so that went well and I felt great, and it’s the first time I understood myself, and there is a reason why this is hard, it’s not just I’m stupid. And it was probably one of the best and most enlightening feelings ever, and I remember me and my mom and we were in the car ride home and she was crying, and I was like ‘its okay’ and then I started crying and it was just great, and honestly, it was for me, it was good crying and my mom, she felt bad because she was like ‘oh you had all these issues all your life, and I feel bad I haven’t brought you to this before’, and it was just, it was a really good moment”
**Themes yielded by life stories:** For descriptive statistics on coded themes across interview items, see Table 4. (For additional detail, Appendix F presents the frequency of narrative themes across interview items according to the general issue related.

Unsurprisingly, themes of disability acceptance were predominately coded in responses to the LD-specific life-story interview items, particularly for the high point and turning point items, and in about half the instances entailed intra-psychic events. Of the agency themes that were coded, most were expressed when narrating an academic issue, followed by intervention issues. Across issues, the vast majority constituted themes of Self-Mastery and Achievement/Responsibility, while Status/Victory and Empowerment themes were rarely coded. Codings of themes of Self-Mastery were primarily associated with responses to Turning Point items (58%), while Achievement/Responsibility was predominately coded in response to high point items (55%). Finally, meaning-making themes were generally coded in a variety of high point, low point, and turning point responses. Narratives of academic issues most frequently yielded these themes. Few themes were coded in responses to the interview items concerning early negative and early positive memories.

**Relation between Self-Regulated Learning and SADS, SCS, and Life Story Themes**

As shown in Table 2 and 3, learning strategies scores and SELP scores were modestly correlated ($r = .31$). Thus, relations between these two self-regulation variables and self-acceptance of the LD, self-compassion and life story themes are presented below in separate sections. Correlational analyses were based on 76-78 participants for the self-report scores. Analyses were based on 20 participants for the themes emerging in the life story narratives.

Given that GPA is not a variable here, the correlations of Table 2 are highlighted here (see also Figure 4). However, it might be noted that the correlations are very similar whether
graduate students are or are not included in the analyses. As noted earlier the Learning Strategies scale was significantly positively correlated with SADS ($r = .35, p = .002$) but did not correlate with the SCS ($r = .15, p = .19$). To further examine the relations, multiple regression was employed to control for the effect of negative affect. These analyses (see Table 5) revealed that together both variables accounted for 13% of the variance and that the scores for Learning Strategies remained significantly positively associated with SADS scores ($sr^2 = .08, t(74) = 2.64, p = .01$).

With respect to the themes coded from interview transcripts (see Table 2), there was no significant relationship between scores on the learning strategies scale with agency themes ($r = .06, p = .80$), meaning-making themes ($r = -.13, p = .57$) or acceptance of LD themes ($r = -.06, p = .80$).

**Relations between SELP, and SADS, SCS, and Life Story Themes**

Pearson correlations, using the entire sample (see Table 2), revealed a significant positive relation of SELP scores and SCS scores ($r = .32, p = .004, r^2 = .10$), and the same magnitude of correlation with SADS scores ($r = .32, p = .004, r^2 = .10$)).

The association between SELP scores and meaning-making themes was medium in size but with an n of 20 did not reach statistical significance ($r = .40, p = .08$). SELP was not correlated with narrative scores for either agency ($r = .23, p = .31$) or LD acceptance ($r = .15, p = .58$).

**Intercorrelation of SCS and SADS and narrative themes.** It may be noted, (as shown in Table 2) that self-acceptance of a learning disability and self-compassion were significantly correlated: $r = .42, p = 001, r^2 = .18$, and as noted earlier that each was correlated with negative affect. The following
correlations represent partial correlations between the SCS/SADS and the narrative themes, controlling for negative affect. (See Figure 5).

No significant correlation was found between SADS scores and meaning-making themes \((r = -.04, p = .87)\) and surprisingly, no association with the expression of acceptance of disability in the life story narratives \((r = -.02, p = .93)\). Also surprising was a significant negative correlation between SADS and scores on agency themes \((r = -.46, p = .04, r^2 = .21)\).

Scores on the SCS were not significantly correlated with either agency \((r = .20, p = .41)\) or meaning-making themes \((r = .40, p = .09)\) though the size of the association was moderate. However, the association of SCS with the narrative theme of self-acceptance of disability was moderate and significant \((r = .51, p = .03, r^2 = .26)\).

**Intercorrelation of narrative themes.** For intercorrelations of narrative themes, see Table 2. There was a significant relation between meaning-making and acceptance of disability \((r = .64, p = .002, r^2 = .41)\) as expressed in the themes of the narratives, as well as between meaning making and agency \((r = .46, p = .04, r^2 = .21)\). Scores reflecting acceptance of a learning disability as expressed in the narratives were only modestly correlated with agency \((r = .28, p = .23)\).

**Summary.** Self-reported GPA was found to be significantly associated with SELP scores and the Learning Strategies scale for both the whole sample and undergraduate sample only, with a stronger association noted for the latter. No significant association was found between GPA and SCS and the SADS scores. The correlation between the SADS scores and the Learning Strategies scale was found to be significant, including when controlling for negative affect. In contrast, the SCS had a non-significant correlation with the Learning Strategies scale. A mediational analysis found a significant indirect effect between SADS scores and self-reported
GPA through the Learning Strategies scale. No association was found between the Learning Strategies scale and the narrative themes of agency, meaning-making or disability acceptance. SELP scores were significantly correlated with the SADS and SCS, whereas correlations with the narrative themes of agency and disability acceptance were non-significant. Further, the SELP correlation with theme of meaning-making was moderate in magnitude but failed to reach significance. Controlling for negative affect, themes of disability acceptance were significantly associated with self-compassion, while in regards to intercorrelations among interview themes, meaning-making was found to be significantly associated with themes of acceptance of disability and agency, while themes of agency and acceptance of disability were not significantly associated.
Discussion

The purpose of this study was to investigate the extent to which the constructs of self-compassion, self-acceptance of disability, aspects of narrative identity, and self-regulated learning related to one another and to self-reported academic achievement, as well as to explore self-acceptance of learning disability and self-compassion within a university student with LD population.

It was hypothesized that participants’ reported self-acceptance of LD and self-compassion would both be positively associated with their reported self-regulated learning as indexed by two variables—use of learning strategies and self-efficacy for one’s learning and performance. This hypothesis regarding self-acceptance was confirmed, as self-acceptance of disability was significantly correlated with both learning strategies reflecting self-regulated learning and with self-efficacy for self-regulated learning, with the magnitude of both relationships being of medium size. Some support for the second was found in that self-compassion was related to self-efficacy for self-regulated learning, with the strength of correlation being medium in size, but it was not related to learning strategies reflecting self-regulated learning.

The hypotheses that participants’ reported acceptance of LD would be positively correlated with GPA and that this relation would be mediated by self-reported self-regulated learning were partly confirmed, as an indirect effect was found between self-acceptance of LD and self-reported GPA as mediated by learning strategies. However, the indirect effect was small. Further, there was an absence of a direct correlation between self-acceptance of LD and self-reported GPA. Finally, the hypothesis that self-compassion would be positive correlated
with GPA, and that this relation would be mediated by learning strategy use was not confirmed, as no significant correlation was found for a direct relation with GPA or learning strategy use.

Lastly, life story narratives were collected to relate themes of agency, self-acceptance, and meaning making to survey scores and to gain a sense of the kinds of events that individuals with a learning disability experienced as high, low, turning points, and positive/negative childhood memories. It was also hypothesized that narrative themes of agency, acceptance of learning disability, and meaning-making gathered from participants’ narrations of these events would be positively related to self-acceptance of LD and self-compassion as indexed by the surveys. In the sample of 20 participants providing narratives, themes of meaning-making were moderately positively correlated with self-efficacy for self-regulated learning and self-compassion, though they failed to reach significance. Themes of self-acceptance of learning disability significantly positively correlated with self-compassion. Themes of agency were found to be significantly negatively correlated with self-acceptance of disability, a finding that was opposite to the study authors’ original hypothesis.

**Self-Compassion in University Students with a Learning Disability**

This study did not include a control group of non-LD students with which to compare study variables. However it is useful to know how self-compassion in the present participants compares with that of previous samples in published research. Given the adapted nature of the SADS, which involved changing the language of the original scale and dropping a single item from the original ten items, a direct comparison with previous studies of other disabled populations is not possible. However, the SCS was the entire scale as used in previous research and could be compared to other similar samples. For each of the comparisons below, graduate students were excluded if the study being compared used undergraduate samples to control for
the effects of age. Otherwise, the entirety of the LD sample was used in the comparison. As the sample sizes being compared are not equal, Hedge’s g was computed to compare mean group differences (Cohen, 1988).

Neff and Pommier (2012) collected SCS data from a sample of 383 college undergraduates from a university in the southwestern United States, finding a total SCS mean of 3.01 with a standard deviation of 0.58 (vs. 2.63 and .61 in the present sample). This suggests that the LD sample possessed lower self-compassion of a medium to large magnitude (g = .65). Similarly, a study by Neff, Whittaker, and Karl (2016) analyzed several samples on their level of self-compassion. Included in their analysis were 222 university students from a southwestern United States college (M = 3.11 SD = 0.67) as well as a clinical sample of 390 adults recruited from primary care settings in the United Kingdom that have previously been diagnosed with Major Depressive Disorder, (M = 2.56 SD = 0.62). This suggests a large difference in SCS scores between college students (g = .72) but a negligible difference between individuals with MDD (g = .11) and the present LD sample. Unlike other research studies, Neff, Whittaker and Karl (2016) included subscale data, allowing for a more fine-grained comparison, Appendix D provides the comparison and shows that scores in their sample were higher than the present LD sample for self-kindness, common humanity, and mindfulness, and lower for self-judgement, isolation, and over-identification. The LD sample demonstrates larger differences in the negative SCS subscales of self-judgement, isolation, and over-identification, while the positive SCS subscales of self-kindness, common humanity and mindfulness show smaller differences between LD and non-LD respondents.

Another study by Magnus, Kowalski and McHugh (2010) gathered data on the SCS from a sample of 252 Canadian women with a mean age of 21.9 years, which found a SCS mean of
3.03, and standard deviation of 0.67, similarly indicating a medium to large difference (g = .60) from the present sample of university students with LD. Finally, a large data set of a non-clinical representative sample of 1,736 Dutch adults’ SCS ratings was collected and analyzed by Lopez et al. (2015), finding a sample mean of 3.08 and standard deviation of .48, substantially higher score than the LD sample in the current study (M = 2.63). This indicates an even larger difference (g = .91) between LD and non-LD populations.

The self-compassion scores in the sample suggest that university students with LDs are lower in trait self-compassion than other comparable populations. The subscale differences found between the study’s LD sample and the non-LD sample in Neff, Whittaker and Karl’s (2017) college student sample indicate that students with LD may have a more pronounced tendency to engage in self-criticism (mean difference $g = .74$) and a reduced tendency toward self-compassion (mean difference $g = .39$). Following Cohen’s (1988) guidelines, these differences are approximately large and medium, respectively. Being self-critical is possibly due to a motivation to improve the self and/or to punish the self for past mistakes (Gilbert, Clarke, Hempel, Miles & Irons, 2004). Students with LDs may be particularly at-risk for self-criticism caused by perceptions of an increased need to improve or by the salience of past mistakes. These findings are in line with other research that has found heightened negative affect in LD populations (Maag, & Reid, 2006; Noble & Evans, 2013; Noble, 2017; Wilson et al. 2009; Yasutake & Bryan, 1995).

Several possibilities have been proposed that account for the link between negative affect and possessing an LD. Greenham (1999) has argued that the academic failures experienced by students with an LD engender learned helplessness, which in turn exacerbates academic failures which then feeds back into heightened negative affect. Other research has demonstrated an
association between depression and neurocognitive deficits typically seen in LD populations, such as deficits in executive functioning and processing speed (McDermott, & Ebmeier, 2009). Children with LDs are less likely to be accepted by their peers (Kavale, & Forness, 1996; Kuhne, & Wiener, 2000) and it has been estimated that between 56% and 76% of children with AD/HD lack mutual friendships, which may be related to the overbearing and intrusive social behaviour of children with AD/HD (Hoza, 2007).

Negative affect was found have a large negative correlation with self-compassion. This finding confirms past research indicating that self-compassion may buffer against the experience of negative affect (Johnson & O’Brien, 2013; Min Choi, Lee & Lee, 2014). The novel finding of a negative relation between negative affect and self-acceptance of an LD may have several explanations. Individual students with an LD who have low trait negativity may find it easier to accept their LD due to limited negative affect generated by life stressors. Alternatively, a student who has more fully accepted their LD may be protected against negative affect following upward social comparisons and self-evaluation following academic failures. Given past research suggesting academic benefits of higher positive affect (Bryan, Mathur & Sullivan, 1996), further research should be conducted in this area to elucidate directionality of a cause-effect relationship between self-acceptance of an LD and positive/negative affect.

Self-acceptance

The positive association between self-acceptance of LD and learning strategy use and self-efficacy builds upon the research literature that has linked positive self-perceptions of learning disability with positive academic outcomes (Rothman & Cosden, 1995) and self-reported productivity (Thomas, 1991). Further, this study provides support to Hellendoorn and Ruijssenaars’s (2000) qualitative research finding that self-acceptance of LD is related to self-
efficacy. To the authors’ knowledge, this is the first study to demonstrate a moderate association between self-acceptance of an LD and self-reported engagement in learning strategy use and self-efficacy. Theoretically, self-acceptance of LD can be conceptualized as a subcomponent of academic self-concept within the self-system (Byrne, 1984; McCombs, 1986), and as such may impact motivation in a similar manner as academic self-concept, such as by buffering negative affect generated by educational stressors and thus improving self-regulation. As Marsh’s (1986) internal/external frame of reference model demonstrates, academic self-concept may be subdivided between domains such as verbal self-concept and mathematical self-concept. The recognition of an LD in one of these domains, and the positive acceptance of the LD may be crucial in facilitating academic motivation for perseverance in the face of challenge in this area. The positive association between self-efficacy and self-acceptance of LD may be due to the containment of a disability’s ‘spread’, limiting negative inferences about future ability to meet challenges.

The finding of an indirect effect of self-acceptance of an LD on self-reported GPA as mediated by learning strategy use suggests that there are benefits to academic success through increased acceptance of an LD, and this area may represent a target for intervention for improving academic outcomes. However, the size of the indirect effect was small. The effect was further reduced when including graduate students in the analysis, possibly due to differences between undergraduates and graduate students such as in grading. Further investigation is warranted to clarify the nature of the association between the constructs, as it may be of significance to those who work with students with LD, such as educators, clinicians, and counselors who may wish to prioritize improving self-acceptance of LD.
Self-compassion

In contrast to previous research findings (Breines & Chen, 2012; Sirois, 2014; Williams, Stark & Foster, 2008) an association between self-compassion and self-regulated learning in terms of learning strategy use was not found. It is possible that this is due to differences in research methodology. Sirois (2014) and Williams, Stark and Foster’s (2008) studies found self-compassion to be negatively related to procrastination. Procrastination is not explicitly measured by the MSLQ, though the Time and Study Environment and Effort Regulation subscales address aspects of procrastination.

However, self-compassion was found to be associated with self-efficacy, confirming past studies that examined the relation between self-compassion and self-efficacy (Iskender, 2009; Smeets, Neff, Alberts, & Peters, 2014). Self-efficacy is an important component of self-regulated learning, as researchers such as Steel (2007) have found self-efficacy to be a major predictor of procrastination. The association between self-compassion and self-efficacy may be due to the manner in which self-compassion has been found to buffer against negative affect following academic failures (Breines & Chen, 2012; Leary et al. 2007; Neff et al. 2005). Being self-kind, understanding that failure is common, and being mindful of one’s emotions may all play a role in improving academic self-confidence by better regulating self-evaluation following failures. As self-compassion has been demonstrated to be a trait that may be improved with intervention (Neff & Germer, 2013), it may represent an area that can indirectly improve academic outcomes for students with LDs. Self-compassion might be improved for students with LD through the creation of self-compassion intervention programs by student support services at universities, through which academic advisors/counselors might refer students with academic difficulties. Such programs might use Neff and Germer’s (2013) intervention model, which used a structured
group-therapy approach, with 2 hour weekly sessions focusing on modules that provided psychoeducation, interpersonal exercises, and homework assignment.

The mechanisms by which self-compassion and self-criticism may be influenced by developmental, cognitive, and social factors have yet to be fully elucidated, and represents a promising area of future research. The life story narratives discussed more extensively below, may provide additional information on these factors. Within the small sample of students with LD interviewed here, there was a strong correlation between expressions of self-acceptance in their life story narratives and SCS scores, mirroring the positive correlation between SCS and SADS.

**Life Story Narratives**

The content of the participants’ responses to the high point, low point, and turning point interview centered around a variety of issues. Half of the participants’ high points in the LD-focused portion of the interview focused on their achievements in the academic domain, and would often represent overcoming the challenges posed by their LD. The participants frequently described this experience as one of a redemptive quality, wherein they were able to resolve the negative emotional valence toward themselves and their LD through a forceful effort in the academic domain. Another large subset (30%) of participants spoke of their high point experience or event as a more gradual change in their perception of the LD to something that contains beneficial elements. Most of these participants’ identified their AD/HD specifically as being a partially positive trait that provides them with greater creativity, and enthusiasm for their hobbies. The high citation of AD/HD as positive may be related to AD/HD being the primary learning disability that interview participants self-identified as possessing, and to the positive association between AD/HD and creativity found by White and Shah (2011), and subsequently

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reported in popular media outlets (e.g., “Is the ADHD Brain More Creative?”, Sarkis, 2011). Lastly, other narratives focused on non-academic achievements, such as accomplishments in employment that demonstrated the containment of their LD to the academic domain.

The participants’ responses to low points in their experience of the LD similarly primarily involved academic difficulties (55%), an unsurprising result given that learning disabilities are partly defined by low or under-achievement in one or more academic areas. When encapsulated by a specific event, the episodes that were related involved failing high stakes tests and earning failing or very low grades. When spoken of as a prolonged sequence of events, the participants very frequently spoke of childhood feelings of frustration and inadequacy, as they struggled in subjects such as reading, spelling and/or mathematics, often before any official diagnosis of an LD had been made. These marked feelings of frustration and inadequacy were also reported by Noble and Evans (2013) and Noble (2017). In addition, participants also brought up themes of negative interactions with teachers, such as discouragement from pursuing advanced education, or difficulty receiving academic accommodations. Other participants related events wherein their LD led to negative interactions with peers, such as being mocked for their LD, or their LD being invalidated. Together these suggest a lack of support, acceptance and understanding from significant others.

Turning points were the least variable in thematic content. Participants’ generally focused on how they managed to improve their LD through interventions such as learning strategy use, medication for inattentiveness, and academic accommodations. The second way that participants conceptualized their LD turning point was as a change in their perception of themselves and their LD. These intrapsychic changes followed themes of an acceptance of their LD, or of the epiphany of the diagnostic event in understanding their learning challenges. An important
subtheme that participants frequently raised was the realization that they were not ‘dumb’ or ‘stupid’, but rather possessed strengths and weaknesses, and being able to contain these weaknesses to specific subject areas. Using Higgins and colleagues (2002) five-stage model of disability acceptance, these participants’ responses suggest that their level of disability acceptance has advanced to at least the compartmentalization stage, and possibly reached the final transformation stage.

**Relation between narrative themes and scale scores.**

Themes of meaning-making and self-acceptance of LD were expected to be related to self-report ratings of both self-acceptance of LD and self-compassion on the questionnaires. Narrative scores generally did correlate with scores on the self-compassion scale but not with the acceptance of disability scale. The lack of a relation with the SADS may be because the study authors’ definitions of themes of self-acceptance for the narrative coding may have lacked content validity, possibly through including too broad a range of types of self-acceptance of LD. Currently the research literature lacks a widely-accepted qualitative definition of themes of self-acceptance of LD, with the result that researchers generate their own idiosyncratic definitions, such as Higgins and colleagues (2002) 5-stage acceptance model, or Gerber and colleagues (1992) concept of ‘reframing’. Future research that focuses on developing a valid theoretical model with a coding scheme that can be followed by other researchers will be an important step in future research of self-acceptance of LD. It is also possible that using an open-ended narrative approach is not able to yield the verbal content that can be analyzed for themes of acceptance of an LD, and that alternative approaches are necessary. However, the positive correlation of self-acceptance narratives themes with scores on SCS call both these interpretations into question. A more likely possibility is that there was a mismatch between expressions of self-acceptance of
the disability in the narratives and the items describing this self-acceptance on the SADS. Positively-phrased items, such as ‘I feel okay talking about my learning disability with others’ suggest a positive correlation would present itself between the SADS and the narrative theme of disability acceptance. However, more negatively-phrased items such as ‘My learning disability has disrupted my life greatly’ and ‘My learning disability is so overwhelming to me that I cannot enjoy anything’ may have generated scores that are less correlated with the coding scheme of disability acceptance devised by the authors, which focused exclusively on positive-acceptance themes. Indeed, one might accept one’s disability and but still (and perhaps realistically) feel that it has disrupted one’s life or is overwhelming.

With respect to self-compassion, the present study found a positive correlation with meaning-making ($r = .40$, when controlling for negative affect) and significant correlation with self-acceptance ($r = .51$, when controlling for negative affect) themes expressed in the narratives. This study demonstrates preliminary evidence that these constructs are related to each other. It is possible that being self-compassionate may precede the ability to find meaning in experiences and/or that finding meaning in life events may engender kindness towards oneself, if negative affect does not overwhelm these processes. Similarly, accepting one’s disability may be easier if an individual already has a compassionate frame of mind towards themselves, and vice versa. However, caution must be taken in interpreting these results due to the small sample size and lack of statistical significance between self-compassion and meaning-making.

Finally, contrary to the authors’ hypothesis, there was a negative association between self-acceptance of LD on the SADS scale and themes of agency in the narratives. This is in contradiction to findings by Adler (2012), who found that increases in narrative themes of agency in psychotherapy patients resulted in an increased on a composite measure of mental
well-being, which included items related to self-esteem. There are several interpretations for this unanticipated negative correlation between the SADS and narrative agency themes. It is possible that a strongly agentic narrative identity may confer a desire to distance oneself from concepts of self-limitation, such as a disability. As the participants in this study were university students, possessing an LD may be a salient part of one’s identity that is difficult to accept if success and achievement are an important part of the participants’ self-concept. Further, the average participant was in the early stage of young adulthood and it is possible that acceptance of LD is a developmental process wherein initially agentic narrative identity plays a negative role in LD acceptance, which by later adulthood changes as the person with LD learns to better manage and cope with their LD. The positive relation (see Tables 2 and 3) found between negative affect and themes of agency suggests that this sample of interviewed participants’ may be attempting to manage their LD through a strategy of distancing their identity from their LD, a possibly maladaptive intrapsychic strategy. An alternative explanation can be found in the concept of ‘fragile’ versus ‘secure’ self-esteem (Kernis, Lakey, & Heppner, 2008). An individual with ‘fragile self-esteem’ may react with hostility and negative affect to perceived threats to their self-concept, and engage in verbal defensiveness as a method to augment self-esteem. It is possible that the Life Story interview technique may elicit verbal defensiveness in individuals whose self-esteem is fragile due to weak acceptance of disability, as the interview items ask participants to recall ‘low points’ in their life experiences in general and their learning disability specifically.

Limitations of the Study

This study’s results consist entirely of self-reported data gathered through nonexperimental methods. The relation between self-acceptance of learning disability, self-regulated learning and GPA was theorized to be a causal relation (see Figure 1), and thus
mediational analyses were employed. However, the relations found between the variables can best be viewed as descriptive results. Their nature and possible directionality remain to be determined before it can be concluded that any increasing self-acceptance of their LD in university students might improve their GPA. Further, self-report data has been known to be affected by systematic error variance (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Such possible sources of bias in self-report measures include the consistency motif, implicit theories, and social desirability. The extent to which common-method bias affects this particular field of study has yet to be determined, but such bias may distort findings by inflating or deflating correlations. Future research in this area would benefit from the use of diverse measurement methods, (e.g. behavioural/naturalistic observations).

Though negative affect was statistically controlled for in the analyses, positive affect was not controlled for due to a lack of its reliability in the PANAS-SF. Previous research suggests that positive affect may affect learning for students with LDs (Bryan, Mathur, & Sullivan, 1996). This leaves a possible gap in our understanding of positive affect’s role in possibly aiding self-regulation and how it might relate to self-acceptance of a disability and self-compassion.

A further set of limitations pertains to the narrative interviews. First, as an exploratory aspect of the study, only 20 participants were interviewed which may make for sample specific findings. In addition, it is possible the interview method employed--a short and adapted form of McAdam’s Life Story Interview --did not contain a sufficiently large number of interview items to fully differentiate between individuals, which may have affected the results.

Finally, it must be noted that the majority of participants in both the sample completing questionnaires and the sample interviewed were individuals who self-reported having AD/HD, about half of whom also reported another form of learning disability. This is in keeping with the
high rates of co-morbidity between AD/HD and LDs ranging from 7 – 92%, depending upon the LD classification system used, with some researchers arguing that the two disorders represent overlapping spectrums. For example, Mayes, Calhoun, and Crowell argue that “learning and attention problems are on a continuum, are interrelated, and usually coexist (2000, p. 417).” However, while there may be shared genetic (Saudino & Plomin, 2007) and neuropsychological aetiologies (DuPaul & Volpe, 2009) for both disorders, recent studies of co-morbidity suggest that while rates are high (45%) most children with AD/HD will not possess and LD and vice versa (DuPaul, Gormley, and Laracy, 2013). The authors’ rationale for including AD/HD within the study’s framework of LDs was that AD/HD represents a diagnosis made in childhood primarily due to academic deficits, and shares similar coping mechanisms with LDs, specifically learning strategies and self-efficacy. However, the present findings may not generalize to a sample of student with LD but without AD/HD. For example, with respect to the life stories collected, recent research on the autobiographical memories of those with AD/HD have noted a deficit in the ability to retrieve autobiographical memory, suggesting that the current results may be distorted by participants’ limited ability to retrieve memories (Fabio & Capri, 2014). Unfortunately, too few of students (just 35%) within the sample fit this profile to split the sample and examine this question. Future research studies in this area would benefit from a larger sample size that might partition out students with and without AD/HD to examine whether there are group differences in narrative identity and self-report survey scores.

Conclusions

As the research literature has largely focused on cognitive aspects of learning disabilities and their impact on academic functioning, a knowledge gap exists regarding the social-emotional aspects of learning disabilities--especially among university students--one which this study
intended to address. In the present study, characteristic adaptations such as acceptance of a disability and self-compassion were measured as well as narrative identity in the form of agency, meaning-making, and self-acceptance of a learning disability. To investigate how these aspects of personality related to university student coping, self-reported data was gathered on learning strategy use and self-efficacy, as well as GPA. As hypothesized, participants who reported higher self-acceptance of disability also reported higher self-regulated learning, which in turn was associated with higher GPA. An association between self-compassion and self-efficacy was also found. Finally, moderate associations between meaning-making and self-efficacy was found, and participants with narrative themes of self-acceptance of their LD reported higher levels of self-compassion. These findings have important implications for educators and clinicians. With the increasing number of students with learning disabilities enrolling at post-secondary institutions, finding ways to improve learning outcomes will be crucial for increasing educational equity for this population. These results point to the possible importance of addressing social-emotional aspects of student functioning, rather than focusing solely on providing accommodations that address cognitive and physical factors. The finding that students with LDs in this sample are lower in lower self-compassion than previous samples of unselected university students further highlights the importance of social-emotional issues for students with learning disabilities. Future research should focus on using experimental treatment approaches that elucidate whether improving self-acceptance and self-compassion results in commensurate improvements in self-regulation of learning.
References


Retrieved from
https://atrium.lib.uoguelph.ca/xmlui/bitstream/handle/10214/11478/Noble_Kevin_201706_PhD.pdf?sequence=1&isAllowed=y


Motivated Strategies for Learning Questionnaire (MSLQ) Manual. Available from:


Table 1

Means and standard deviations for study variables

<table>
<thead>
<tr>
<th></th>
<th>Full sample (n = 78)</th>
<th>Undergraduate sample (n = 67)</th>
<th>Interview sample (n = 20)</th>
<th>Interview undergraduate sample (n = 17)</th>
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</thead>
<tbody>
<tr>
<td>SADS</td>
<td>34.52(6.68)</td>
<td>34.88(6.57)</td>
<td>35.65(6.20)</td>
<td>36.65 (6.21)</td>
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<tr>
<td>SCS Total</td>
<td>2.63(.63)</td>
<td>2.63(.61)</td>
<td>2.68(.60)</td>
<td>2.75(.55)</td>
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<td>Self-Kindness</td>
<td>2.77(.76)</td>
<td>2.76(.78)</td>
<td>2.85(.75)</td>
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<td>Self-Judgement</td>
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<td>3.51(.85)</td>
<td>3.51(.88)</td>
<td>3.37(.89)</td>
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<td>Common Humanity</td>
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<td>2.76(.88)</td>
<td>2.84(.92)</td>
<td>2.92(.85)</td>
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<td>Isolation</td>
<td>3.56(.94)</td>
<td>3.57(.91)</td>
<td>3.47(.85)</td>
<td>3.44(.79)</td>
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<td>Mindfulness</td>
<td>3.27(.71)</td>
<td>3.51(.70)</td>
<td>3.12(.61)</td>
<td>3.19(.60)</td>
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<td>Overidentification</td>
<td>3.71(.74)</td>
<td>3.70(.71)</td>
<td>3.71(.87)</td>
<td>3.73(.79)</td>
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<td>Learning Strategies Total</td>
<td>160.75(21.96)</td>
<td>160.03(21.96)</td>
<td>160.55(15.99)</td>
<td>161.64(17.04)</td>
</tr>
<tr>
<td>Organization</td>
<td>18.17(4.57)</td>
<td>18.01(4.64)</td>
<td>17.85(4.49)</td>
<td>17.64(4.83)</td>
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<td>Elaboration</td>
<td>28.99(5.43)</td>
<td>29.00(5.48)</td>
<td>29.15(4.87)</td>
<td>30.06(4.56)</td>
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<td>Time &amp; Environment</td>
<td>35.14(7.92)</td>
<td>35.24(7.87)</td>
<td>35.95(7.81)</td>
<td>36.12(8.32)</td>
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<tr>
<td>Metacognitive Regulation</td>
<td>44.38(7.95)</td>
<td>43.84(8.07)</td>
<td>44.75(8.57)</td>
<td>44.53(9.32)</td>
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<tr>
<td>Effort Regulation</td>
<td>15.13(4.33)</td>
<td>15.24(4.33)</td>
<td>15.10(4.71)</td>
<td>15.58(4.37)</td>
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<tr>
<td>SELP</td>
<td>37.15(9.61)</td>
<td>36.73(10.09)</td>
<td>38.70(10.17)</td>
<td>38.17(10.56)</td>
</tr>
<tr>
<td>Negative Affect</td>
<td>14.09(3.31)</td>
<td>13.83(3.13)</td>
<td>14.05(2.70)</td>
<td>13.47(2.45)</td>
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<td>Self-Reported GPA</td>
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<td>72.76(7.35)</td>
<td>76.14(8.34)</td>
<td>75.36(8.47)</td>
</tr>
</tbody>
</table>

Note: SADS = Self-Acceptance of Disability Scale, SCS = Self-Compassion Scale, SELP = Self-Efficacy for Learning & Performance

1 Learning Strategies scales missing data for single participant and is based on a sample size of 77 for entire sample and 66 for undergraduate sample

2 Self reported GPA missing data for single participant and is based on a sample size of 77 for entire sample and 66 for undergraduate sample
Table 2

*Inter-correlations between self-report study and life story interview variables for all participants (n = 78 for self-report variables, n = 20 for interview variables)*

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<td>2. SCS</td>
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<tr>
<td>3. Learning Strategies&lt;sup&gt;1&lt;/sup&gt;</td>
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<td>21.96</td>
<td>.35**</td>
<td>.15</td>
<td></td>
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<td>4. SELP</td>
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<td>.31**</td>
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<td>5. Negative Affect</td>
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<td>-.47**</td>
<td>-.56**</td>
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<td>-.21</td>
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<td>6. Self-Report GPA&lt;sup&gt;1&lt;/sup&gt;</td>
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<td>-.03</td>
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<td>7. Meaning-Making</td>
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<td>8. Agency</td>
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<td>.10</td>
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<td>9. LD Acceptance</td>
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<td>.15</td>
<td>.06</td>
<td>.28</td>
<td>.64**</td>
<td>.28</td>
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*Note:* ** Correlation is significant at the 0.01 level (two-tailed)
* Correlation is significant at the 0.05 level (two-tailed)

<sup>1</sup>Correlation based on n = 77
<sup>2</sup>Correlation based on n = 76

SADS = Self-Acceptance of Disability Scale, SCS = Self-Compassion Scale, SELP = Self-Efficacy for Learning & Performance
Table 3

Inter-correlations between self-report study and life story interview variables for participants in their first to fourth year of studies (n = 67 for self-report variables, n = 17 for interview variables)

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<tbody>
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<td>1</td>
<td>SADS</td>
<td>34.88</td>
<td>6.57</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2</td>
<td>SCS</td>
<td>2.63</td>
<td>.61</td>
<td>.35**</td>
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<tr>
<td>3</td>
<td>Learning Strategies</td>
<td>160.03</td>
<td>21.96</td>
<td>.41**</td>
<td>.16</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>4</td>
<td>SELP</td>
<td>36.73</td>
<td>10.09</td>
<td>.35**</td>
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<td>.34**</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>5</td>
<td>Negative Affect</td>
<td>13.83</td>
<td>3.13</td>
<td>-.43**</td>
<td>-.60**</td>
<td>-.16</td>
<td>-.26*</td>
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<tr>
<td>6</td>
<td>Self-Report GPA</td>
<td>72.76</td>
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<td>.06</td>
<td>.40**</td>
<td>.31**</td>
<td>-.17</td>
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<tr>
<td>7</td>
<td>Meaning-Making</td>
<td>7.94</td>
<td>2.68</td>
<td>-.23</td>
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<td>.31</td>
<td>.13</td>
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<tr>
<td>8</td>
<td>Agency</td>
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<td>-.58*</td>
<td>-.18</td>
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<td>.24</td>
<td>.43</td>
<td>.17</td>
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<tr>
<td>9</td>
<td>LD Acceptance</td>
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<td>.39</td>
<td>-.15</td>
<td>.27</td>
<td>.39</td>
<td>-.09</td>
<td>.68**</td>
<td>.36</td>
</tr>
</tbody>
</table>

Note: ** Correlation is significant at the 0.01 level (two-tailed)
* Correlation is significant at the 0.05 level (two-tailed)
1 Correlations based on n = 66
2 Correlation based on n = 65
SADS = Self-Acceptance of Disability Scale, SCS = Self-Compassion Scale, SELP = Self-Efficacy for Learning & Performance
Table 4

*Observed frequency of narrative themes coded by interview item*

<table>
<thead>
<tr>
<th>Narrative Themes</th>
<th>Interview Items</th>
<th></th>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High Point</td>
<td>Low Point</td>
<td>Turning Point</td>
<td>Negative Early Memory</td>
<td>Positive Early Memory</td>
<td>LD Low Point</td>
<td>LD High Point</td>
</tr>
<tr>
<td>Identity/Disability Acceptance</td>
<td>1</td>
<td>-</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>LD Empowerment</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Relational Acceptance</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Insightful Acceptance</td>
<td>1</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Containment</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>1</td>
<td>-</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Self-Norms/Standards</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<td>-</td>
<td>-</td>
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<tr>
<td>Self-Mastery</td>
<td>4</td>
<td>4</td>
<td>15</td>
<td></td>
<td>2</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>Status/Victory</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Achievement/Responsibility</td>
<td>8</td>
<td>-</td>
<td>6</td>
<td>-</td>
<td>4</td>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>Empowerment</td>
<td>2</td>
<td>-</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Lesson</td>
<td>7</td>
<td>12</td>
<td>4</td>
<td>5</td>
<td>3</td>
<td>9</td>
<td>6</td>
</tr>
<tr>
<td>Insight</td>
<td>5</td>
<td>5</td>
<td>14</td>
<td>3</td>
<td>2</td>
<td>0</td>
<td>13</td>
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</table>
Table 5

Multiple regression of learning strategies on negative affect and SADS

<table>
<thead>
<tr>
<th>Variable</th>
<th>$\beta$</th>
<th>SE</th>
<th>$t$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negative Affect</td>
<td>-.12</td>
<td>.82</td>
<td>-.46</td>
<td>.64</td>
</tr>
<tr>
<td>SADS</td>
<td>.32</td>
<td>.40</td>
<td>2.64</td>
<td>.01</td>
</tr>
</tbody>
</table>

Note: $R^2 = .13$
Appendix A

*Figure 1:* Hypothesized relations between questionnaire study variables. Note: dashed lines indicate a mediated relation through Learning Strategies/Self-Efficacy.

*Figure 2:* Standardized regression coefficients for the relationship between Self-Acceptance of Disability and self-reported GPA as mediated by Learning Strategies for undergraduate sample alone. The standardized indirect effect of Self-Acceptance of Disability on GPA is represented by ab.

\[ \text{ab} = 0.15^* \]

\[ a = 0.41^{**} \]

\[ b = 0.40^{**} \]

\[ c = 0.13 \]

\[ \text{GPA} \]

* = \( p < .05 \), ** = \( p < .01 \)
Figure 3: Standardized regression coefficients for the relationship between Self-Acceptance of Disability and self-reported GPA as mediated by Learning Strategies for the entire sample. The standardized indirect effect of Self-Acceptance of Disability on GPA is represented by ab.

* = $p < .05$, ** = $p < .01$

Figure 4: Bivariate correlations between SCS/SADS and Self-regulatory learning variables.  
* = $p < .05$, ** = $p < .01$
Figure 5: Partial correlations between SCS/SADS and narrative themes, controlling for negative affect.

* = p < .05.
Appendix B

LIFE STORY INTERVIEW

This is an interview about the story of your life. I am interested in hearing your story, including parts of the past as you remember them and the future as you imagine it. The story is selective; it does not include everything that has ever happened to you. Instead, I will ask you to focus on a few key things in your life – a few key scenes, characters, and ideas. There are no right or wrong answers to my questions. Instead, your task is simply to tell me about some of the most important things that have happened in your life and how you imagine your life developing in the future. I will guide you through the interview so that we finish it all in about 45 minutes or less. Please know that my purpose in doing this interview is not to do some kind of deep clinical analysis or form of therapy. The interview is for research purposes only, and its main goal is simply to hear your story. Everything you say is voluntary, and confidential. The interview will be audio recorded and transcribed so that I can code themes within it and collapse this across interviewees for my dissertation. Any potentially identifying information (e.g. names, places will not be recorded in the transcriptions. Audio files and transcriptions will be stored on a secure drive and accessed only by my advisor Mary Ann Evans and myself. I think you will enjoy the interview. Do you have any questions?

A. Life Chapters

Please begin by thinking about your life as if it were a book or novel. Imagine that the book has a table of contents containing the titles of the main chapters in the story. To begin here, please describe very briefly what the main chapters in the book might be. Please give each chapter a title, tell me just a little bit about what each chapter is about, and say a word or two about how we get from one chapter to the next. As a storyteller here, what you want to do is to give me an overall plot summary of your story, going chapter by chapter. You may have as many chapters as you want, but I would suggest having between about 2 and 7 of them. We will want to spend no more than about 5 or 10 minutes on this first section of the interview, so please keep your descriptions of the chapters relatively brief.
[Note to interviewer: The interviewer should feel free to ask questions of clarification and elaboration throughout the interview, but especially in this first part. This first section of the interview should run between 15 and 30 minutes.]

B. Key Scenes in the Life Story

Now that you have described the overall plot outline for your life, I would like you to focus in on a few key scenes that stand out in the story. A key scene would be an event or specific incident that took place at a particular time and place. Consider a key scene to be a moment in your life story that stands out for a particular reason – perhaps because it was especially good or bad, particularly vivid, important, or memorable. For each of the eight key events we will consider, I ask that you describe in detail what happened, when and where it happened, who was involved, and what you were thinking and feeling in the event. In addition, I ask that you tell me why you think this particular scene is important or significant in your life. What does the scene say about you as a person? Please be specific.

1. High point.

Please describe a scene, episode, or moment in your life that stands out as an especially positive experience. This might be the high point scene of your entire life, or an especially happy, joyous, exciting, or wonderful moment in the story. Please describe this high point scene in detail. What happened, when and where, who was involved, and what were you thinking and feeling? Also, please say a word or two about why you think this particular moment was so good and what the scene may say about who you are as a person.

2. Low point.

The second scene is the opposite of the first. Thinking back over your entire life, please identify a scene that stands out as a low point, if not the low point in your life story. Even though this event is unpleasant, I would appreciate your providing as much detail as you can about it. What happened in the event, where and when, who was involved, and what were you thinking and feeling? Also, please say a word or two about why you think this particular moment was so bad and what the scene may say about you or your life. [Interviewer note: If the participants balks at doing this, tell him or her that the event does not really have to be the lowest point in the story but merely a very bad experience of some kind.]
3. Turning point.

In looking back over your life, it may be possible to identify certain key moments that stand out as turning points -- episodes that marked an important change in you or your life story. Please identify a particular episode in your life story that you now see as a turning point in your life. If you cannot identify a key turning point that stands out clearly, please describe some event in your life wherein you went through an important change of some kind. Again, for this event please describe what happened, where and when, who was involved, and what you were thinking and feeling. Also, please say a word or two about what you think this event says about you as a person or about your life.

5. Negative childhood memory. The fifth scene is an early memory – from childhood or your teen-aged years – that stands out as especially negative in some way. This would be a very negative, unhappy memory from your early years, perhaps entailing sadness, fear, or some other very negative emotional experience. Please describe this bad memory in detail. What happened, where and when, who was involved, and what were you thinking and feeling? Also, what does this memory say about you or your life?

4. Positive childhood memory.

The fourth scene is an early memory – from childhood or your teen-aged years – that stands out as especially positive in some way. This would be a very positive, happy memory from your early years. Please describe this good memory in detail. What happened, where and when, who was involved, and what were you thinking and feeling? Also, what does this memory say about you or about your life?

Part II – Learning Disability Narratives

These next few questions will involve your memories of having a learning disability, and will involve telling me the story of your life with having a learning disability. Some of the questions will be similar to those I have already asked you. Therefore these memories may or may not have
been similar to the stories you told me earlier. Nonetheless, please describe them in as much detail as you can remember.


Think back to the first time you discovered you had a learning disability. This may have been from a parent, a teacher, or a psychologist, or you may have first found out in some other way. Please describe what happened in the memory, who was around, and what you remember thinking and feeling at the time. Lastly, what do you think this memory says about your experience with having a learning disability?

8. Low point in your experience of having a learning disability?

This next scene involves thinking back about all of your experiences with having a learning disability. Please identify a scene from your life that relates to your learning disability that stands out as a low point. While this event was difficult, please provide as much detail as you can about it. What happened in the event, where and when, who was involved, and what you were thinking and feeling? Also, please comment on why think you think particular moment was so bad and what the scene may say about your experience with having a learning disability? [Interviewer note: If the participants balks at doing this, tell him or her that the event does not really have to be the lowest point in the story but merely a very bad experience of some kind.]

7. High point with an LD

Thinking back over all of your life experiences with having a learning disability, please describe an event, scene, or moment that relates to your learning disability that stands out as being especially positive. This might be a high point scene in the story of your learning disability, where you felt especially good about yourself because of or in spite of your learning disability. What happened, when and where, who was involved, and what were you thinking and feeling? Also, please comment on why you think this particular moment was so good and what the scene may say about your experience with having a learning disability?

9. Turning point with an LD
When thinking about your life since discovering you had a learning disability, it may be possible to identify key moments that stand out as turning points – episodes that marked a important change in how you dealt with your learning disability. Please identify a particular episode that you now see as a turning point in how experienced your learning disability. Again, for this event please describe what happened, where and when, who was involved, and what you were thinking and feeling. Also, please say comment about what you think this event say about you as a person with a learning disability.

Before we conclude the interview, what else should I know to understand your life story?
Appendix C

Q28 How old are you?

Q1 Please click on the response option that applies to you below. If you wish to change your response, just simply click on the option you prefer. What is your gender?

- Male
- Female
Q2 What is your ethnicity?

☐ Asian
☐ White
☐ Black
☐ Middle-Eastern
☐ South Asian
☐ First Nations
☐ Hispanic
☐ Multi-racial
☐ Other ________________________________

Q3 What year are you in your studies?

☐ 1st year
☐ 2nd year
☐ 3rd year
☐ 4th year
☐ 4+
☐ Masters studies
☐ PhD studies
Q5 What type(s) of learning disability have you been diagnosed with? Select all that apply

☐ Reading
☐ Writing
☐ Mathematics
☐ Attention-Deficit/Hyperactivity Disorder (AD/HD)
☐ Memory Deficits
☐ Slow Processing Speed
☐ Other (please identify) __________________________________________________________________________

Q6 Do you have any other identified exceptionality? If so please list:
__________________________________________________________________________________________

Q7 What has been your grade point average so far in your studies? Please make your best guess based on your term marks so far.
__________________________________________________________________________________________

Q8 If you have declared a major, what is it?
__________________________________________________________________________________________
Q9 Are you currently experiencing depression?

○ Yes

○ No

Q10 Are you taking or have you ever taken the course PSYC*1300 (Learning Disabilities: Experience to Understanding)?

○ Yes

○ No
Q11 Remember there are no right or wrong answers, just answer as accurately as possible. Thinking about yourself and how you normally feel, to what extent do you generally feel

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upset</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hostile</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alert</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ashamed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inspired</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nervous</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Determined</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attentive</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Afraid</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Active</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Q12 Please read each statement carefully before answering. Remember there are no right or wrong answers, just answer as accurately as possible. Indicate how often you behave in the stated manner, using the following scale

<table>
<thead>
<tr>
<th>Statement</th>
<th>Almost Never</th>
<th>Almost Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I’m disapproving and judgmental about my own flaws and inadequacies.</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>2. When I’m feeling down I tend to obsess and fixate on everything wrong.</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>3. When things are going badly for me, I see the difficulties as part of life that everyone goes through.</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>4. When I think about my inadequacies, it tends to make me feel more separate and cut off from the rest of the world.</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>5. I try to be loving towards myself when I’m feeling emotional pain.</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>6. When I fail at something important to me I become consumed by feelings of inadequacy.</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>7. When I’m down and out, I remind myself</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
that there are lots of other people in the world feeling like I am.

8. When times are really difficult, I tend to be tough on myself.

9. When something upsets me I try to keep my emotions in balance.

10. When I feel inadequate in some way, I try to remind myself that feelings of inadequacy are shared by most people.

11. I'm intolerant and impatient towards those aspects of my personality I don't like.

12. When I'm going through a very hard time, I give myself the caring and tenderness I need.

13. When I'm feeling down, I tend to feel like most other people are probably happier than I am.
14. When something painful happens I try to take a balanced view of the situation.

15. I try to see my failings as part of the human condition.

16. When I see aspects of myself that I don’t like, I get down on myself.

17. When I fail at something important to me I try to keep things in perspective.

18. When I’m really struggling, I tend to feel like other people must be having an easier time of it.

19. I’m kind to myself when I’m experiencing suffering.

20. When something upsets me I get carried away with my feelings.

21. I can be a bit cold-hearted towards myself when I’m experiencing suffering.
22. When I'm feeling down I try to approach my feelings with curiosity and openness.

23. I'm tolerant of my own flaws and inadequacies.

24. When something painful happens I tend to blow the incident out of proportion.

25. When I fail at something that's important to me, I tend to feel alone in my failure.

26. I try to be understanding and patient towards those aspects of my personality I don't like.
Q13 The following questions ask about your motivation for and attitudes about your classes. Remember there are no right or wrong answers, just answer as accurately as possible. Use the scale below to answer the questions. If you think the statement is very true of you, select 7; if a statement is not at all true of you, select 1. If the statement is more or less true of you, find the number between 1 and 7 that best describes you.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Not at all true of me</th>
<th>Very true of me</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I believe I will receive excellent grades.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. I'm certain I can understand the most difficult material presented in the readings for my courses.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. I'm confident I can learn the basic concepts taught in university.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. I'm confident I can understand the most complex material presented by the instructors in university.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. I'm confident I can do an excellent job on the assignments and tests in</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
university.

6. I expect to do well in my classes.

7. I'm certain I can master the skills being taught in my classes.

8. Considering the difficulty of my classes, the teachers, and my skills, I think I will do well in my classes.
The following questions ask about your learning strategies and study skills. Again, there are no right or wrong answers. Answer the questions about how you as accurately as possible. Use the same scale to answer the remaining questions. If you think the statement is very true of you, circle 7; if a statement is not at all true of you, circle 1. If the statement is more or less true of you, find the number between 1 and 7 that best describes you.

<table>
<thead>
<tr>
<th>1. When I study the readings for courses, I outline the material to help me organize my thoughts</th>
<th>Not at all true of me</th>
<th>Very true of me</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. During class time I often miss important points because I’m thinking of other things.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. I usually study in a place where I can concentrate on my course work.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. When reading for university, I make up questions to help focus my reading.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. I often feel so lazy or bored when I study for university that I quit before I finish what I planned to do.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
1. When I study for university, I practice saying the material to myself over and over.

2. When I become confused about something I'm reading, I go back and try to figure it out.

3. When I study, I go through the readings and my class notes and try to find the most important ideas.

4. I make good use of my study time.

5. If course readings are difficult to understand, I change the way I read the material.

6. When studying, I read my class notes and the course readings over and over again.

7. When I study, I go through the readings and my class notes and try to find the most important ideas.

8. When I study, I go through the readings and my class notes and try to figure it out.

9. I make good use of my study time.

10. If course readings are difficult to understand, I change the way I read the material.

11. When studying, I read my class notes and the course readings over and over again.

12. I work hard to do
well in class even if I don't like what we are doing.

13. I make simple charts, diagrams, or tables to help me organize course material.

14. I find it hard to stick to a study schedule.

15. When I study, I pull together information from different sources, such as lectures, readings, and discussions.

16. Before I study new course material thoroughly, I often skim it to see how it is organized.

17. I ask myself questions to make sure I understand the material I have been studying.

18. I try to change the way I study in order to fit the course requirements and the
instructor’s teaching style.

19. I often find that I have been reading for a class but don’t know what it was all about.

20. I memorize key words to remind me of important concepts.

21. When course work is difficult, I either give up or only study the easy parts.

22. I try to think through a topic and decide what I am supposed to learn from it rather than just reading it over when studying.

23. I try to relate ideas in this subject to those in other courses whenever possible.

24. When I study, I go over my class notes and make an outline of important
25. When reading for a class, I try to relate the material to what I already know.

26. I have a regular place set aside for studying.

27. When I study, I write brief summaries of the main ideas from the readings and my class notes.

28. I try to understand the material in class by making connections between the readings and the concepts from the lectures.

29. I make sure that I keep up with the weekly readings and assignments.

30. I make lists of important items for courses and memorize the lists.
31. I attend classes regularly.

32. Even when course materials are dull and uninteresting, I manage to keep working until I finish.

33. When studying I try to determine which concepts I don’t understand well.

34. I often find that I don’t spend very much time on courses because of other activities.

35. When I study, I set goals for myself in order to direct my activities in each study period.

36. If I get confused taking notes, I make sure I sort it out afterwards.

37. I rarely find time to review my notes or readings
before an exam.

38. I try to apply ideas from course readings in other class activities such as lecture and discussion.
Q16 – 10 items for the Self Acceptance of Disability Scale appear next
Q20 In addition to completing this survey, we would also like to invite you to participate in our follow-up study on life stories of students with learning disabilities. These life stories will be gathered in an in-person interview on campus with the leader researcher and would later be linked anonymously to your survey responses. Interview participants will receive $15 dollars. If you wish to be contacted to participate in this interview, please enter your email address below and answer the three security questions. These questions would be asked again during the interview to link your survey and interview together, while preserving anonymity.

☐ Email Address __________________________________________________________

Q21 What was the name of your first pet?
____________________________________________________________

Q22 What city or town were you born in?
____________________________________________________________

Q23 What was your favourite teacher's name?
____________________________________________________________
Q19 Thank you for completing our survey! As a token of our appreciation, we will be providing a $10 Tim Hortons e-gift card. This will be sent to you via email which you can then print off to claim at any Tim Hortons location. To claim this gift card, please click below to provide your name and email address below. Your name and email address will not be associated with your responses. You will receive your e-gift certificate in the next two weeks.

- First Name __________________
- Last Name __________________
- Email ____________________
Appendix D

Comparison of mean SCS difference scores between Neff, Whittaker, and Karl (2017) sample and LD sample in current study

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Non-LD student</th>
<th>LD student</th>
<th>Mean Difference</th>
<th>Effect (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-kindness</td>
<td>3.07(.77)</td>
<td>2.77(.76)</td>
<td>0.30</td>
<td>0.38</td>
</tr>
<tr>
<td>Common-Humanity</td>
<td>3.20(.80)</td>
<td>2.78(.90)</td>
<td>0.42</td>
<td>0.51</td>
</tr>
<tr>
<td>Mindfulness</td>
<td>3.29(.78)</td>
<td>3.07(.71)</td>
<td>0.22</td>
<td>0.29</td>
</tr>
<tr>
<td>Self-Judgement</td>
<td>3.00(.81)</td>
<td>3.53(.86)</td>
<td>-0.53</td>
<td>0.64</td>
</tr>
<tr>
<td>Isolation</td>
<td>2.87(.84)</td>
<td>3.57(.94)</td>
<td>-0.70</td>
<td>0.81</td>
</tr>
<tr>
<td>Over-identified</td>
<td>3.05(.90)</td>
<td>3.71(.74)</td>
<td>-0.66</td>
<td>0.76</td>
</tr>
</tbody>
</table>
Appendix E

Definitions of coded interview LD themes

**Academic Issue** – loose generalization of academic difficulties being the primary cause of the low point, high point or turning point. Examples might include failing a high stakes exam, or receiving exceptional grades, improving upon ones previous work.

**Teacher Interaction** – A interpersonal experience with a teacher being the cause of the low/high/turning point, for example teacher not understanding the LD, providing accommodations.

**Employment Issue** – The cause of the low/high/turning point being a experience with employment.

**Social Issue** – Feeling rejected, looked down upon, or perceived in a negative way because of LD status or a feeling or experience of social acceptance/community, for example acceptance into a peer group, or building friendships.

**Intrapsychic/self-perceptual** – the low/high/turning point is a result of a change in self-understanding, gain in self-knowledge, and does not already fit into any of the above categories, for example reinterpreting your LD as being a positive attribute, or providing some beneficial character, or the diagnostic event.

**Accident** – A non-academic/non-employment accidental event attributed to being LD/ADHD.

**Intervention Issue** - the low/high/turning point is a result of receiving the beneficial effects of an intervention targeting the LD, either through AD/HD medication, a change in one’s approach to academics and/or self-regulation of learning strategies or receiving appropriate accommodations within the school environment.

**No turning point** – Could not think of one/recall one.
Appendix F

Observed frequency of narrative themes coded by LD experience event

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<th>Interview Items</th>
<th>Narrative Themes</th>
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<th>Social Issue</th>
<th>Intra Psychic</th>
<th>Intervention Issue</th>
<th>Other Achievement</th>
<th>Teacher Interaction</th>
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