

An Ecological Mixed Methods Study of Youth with Learning Disabilities:
Exploring Personal and Familial Influences on Mental Health

by

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B.A., University of Victoria, 2005

M.A., University of Victoria, 2010

A Dissertation Submitted in Partial Fulfillment of the
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Supervisory Committee

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Abstract

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There is a notable overlap and co-occurrence of mental health and learning challenges among school-aged youth. Existing research highlights associations between learning disabilities (LD) and mental health problems; however, there has been little exploration of additional variables, such as familial influences, that represent multiple levels of influence (Cen & Aytac, 2016). From a developmental relational systems framework (Overton, 2015), advancing the understanding of familial influences on youth development is crucial. Using a mixed methods design, the present study examined the influences of parent depression, parenting behaviours, family functioning, and youth social and emotional competencies on symptoms of anxiety and depression among youth with LD. Addressing two hypotheses, the quantitative Study 1 aimed to identify factors associated with mediating effects on internalized distress in 14- and 15-year-old youth with LD using secondary analysis of a cross-sectional national sample of youth and their parents. Youth social and emotional competencies and parental monitoring were found to be the most significant buffering influences in reducing symptoms of anxiety and depression. The qualitative Study 2 built on the results from Study 1, to expand the quantitative findings. In Study 2, youth at the end of middle school and their parents were interviewed to gain deeper understanding about the experiences of co-occurring LD and mental health problems from a family perspective. Data analysis identified youth fatigue, youth self-efficacy, and family relationships as central themes related to the challenges youth and their families experienced.

Integrating the findings of the two studies illustrated the complex psychological, social, and educational implications for youth with LD in a family context. The interplay of factors embedded in the relation between the LD and mental health problems underscores this complexity, suggesting the relation cannot be completely understood without considering the multiple levels of influences. Implications for theory, research, and practice are described with an emphasis on ecological approaches and building school-family relationships.

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Children, marriage, and a two-thousand-kilometre move across the country are the major developments in my life since beginning this degree. I am very grateful for my husband's, Jeff's, continued support on many levels as I have gone on this journey: his love, his patience, and his willingness during this endeavour. I could not have succeeded without him. Because our children were born while I was working on my PhD, and thus through my own ever-developing parenting experiences, I have felt even more drawn to my research interests and to continue my research and professional work with families. Thank you to my own parents, Sophie Hamel (a high school teacher) and Ron Lawrence, for their continued support in this challenging process and for always believing in me.

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Dedications

Through this research I have met families who work diligently to support their children to succeed academically and emotionally. This work is dedicated to families of children and youth who not only experience the difficulties of learning in traditional educational contexts, but also experience mental health challenges. My hope is that through this research increased support and focus is brought, not only to children, but also to their parents.

CHAPTER ONE: INTRODUCTION

Learning disability (LD) is a multifaceted concept that encompasses biological and genetic mechanisms in addition to psychosocial and cultural processes. LD can have a profound effect on people throughout their lifetime (Fuller-Thomson, Carroll, & Yang, 2018; Siegel, 2012). Youth with LD often show increased levels of mental health problems, such as symptoms of anxiety and depression. Despite important advances in knowledge regarding youth with LD and mental health problems, policy development continues to be informed by studies that are not comprehensive, but rather use limited methods that often fail to elucidate the multiple contextual dimensions of familial and educational influences that impact the experiences of young people. Continued poor social outcomes, particularly for students with LD and mental health problems, emphasize the need for research that documents comprehensive information and systematic descriptions of these youth and what their experiences include (Siegel, 2012; Wagner, Kutash, Duchnowski, & Epstein, 2005; Whitley, 2010). Identifying the influences and understanding the experiences of youth with co-occurring LD and mental health problems is fundamental to optimizing psychological and educational support. The relational developmental systems framework (Overton, 2015) conceptually emphasizes mutually influential individual and contextual relations. Research situated in this framework seeks to understand the broader factors, such as family, that refocus on the child's development in context. This coactional approach illuminates the contextual influences that are believed to contribute to youth development despite adverse conditions. Using a relational developmental systems theoretical framework, the overarching aim of this research was to explore the co-occurrence of LD and mental health problems, specifically symptoms of anxiety and depression among youth, and to examine familial influences.

To thoroughly explore the co-occurrence of LD and mental health problems one data source was not deemed sufficient, hence, this mixed methods research design was developed to identify broad patterns and individual characteristics within a national dataset and to describe youth and parent perspectives through two family cases. The specific purpose of the explanatory sequential mixed methods design was to explore the co-occurrence of LD and mental health problems using secondary data from the National Longitudinal Survey of Children and Youth (NLSCY; Statistics Canada, 2008) and data from qualitative interviews with youth and their parents. Hypotheses derived from prior research and situated in a relational development systems framework were addressed in the quantitative strand (Study 1); the quantitative findings were furthered elaborated in the qualitative strand (Study 2). Study 1 used secondary quantitative data to examine mediating youth and family factors related to symptoms of youth anxiety and depression, while Study 2 elicited in-depth youth and parent perspectives through interviews.

Orientation of the Dissertation

This dissertation is organized into six chapters. This first chapter describes the impetus for the research, definitions, and the theoretical framework of the dissertation. Empirical literature on the co-occurrence of LD and internalizing problems and related familial influences is presented in Chapter Two. The third chapter describes the mixed methods research design. Study 1 and Study 2 are presented in Chapters Four and Five respectively; each chapter includes method, results, and discussion sections. An integrated overall discussion of both studies is found in Chapter Six, which includes meta-inferences, implications, limitations, and future research.

Positioning the Intersection of Mental Health and Education

Academically and clinically, the impetus for this research is the notable overlap and increasing occurrence of learning challenges and mental health problems among school-aged youth. During my undergraduate degree in psychology, I worked as a reading interventionist with elementary school children and then a tutor and “learning strategist” for students with disabilities. My interest was further spurred in 2008 when I started a counselling practicum in an alternative high school setting. Throughout my master’s counselling training I worked primarily in educational settings. In providing mental health counselling to youth and young adults, I often noticed the *overlap* of counselling and educational concerns. Students regularly voiced anxiety and depression concerns related to a variety of interconnected school, peer, family, and personal issues. Given these observations, I decided to complete graduate-level courses in special education assessment and intervention. The complex interplay between such closely related yet distinct disciplines (counselling psychology and special education) became increasingly evident to me; work with many clients required not only counselling but also educational and family support. To expand my practical-theoretical framework to encompass these layers of influence, I began my doctoral program in educational psychology while also pursuing additional counselling experience in a clinical mental health setting. My research interests and this dissertation have been shaped by my professional counselling experiences and my background with families of children with disabilities that are identified or “designated” in the school systems. In the literature there is substantial longitudinal evidence of the association between children’s emotional and behavioural health and their learning and achievement (Darney, Reinke, Herman, Stormont, & Ialongo, 2013; Valdez, Lambert, & Ialongo, 2011). However, we are often trained (e.g., as psychologists, counsellors, teachers, learning specialists) to manage

specific issues separately. It is complicated work to support psychological and learning issues concurrently, yet schools are tasked to produce both educational and developmental outcomes to support the holistic health and well-being of students.

I believe we cannot ignore the increasing rates of mental health problems among youth (Collinshaw, Maughan, Natarajan, & Pickles, 2010; Mental Health Commission of Canada, 2017; Sweeting, West, Young, & Der, 2010). Teachers encounter mental health difficulties in their classrooms and the topic appears regularly on the national radio and news (e.g., see Dubé, 2017; Goodes, 2017). Anxiety and depression are the most common mental health problems in adolescence (Costello, Egger, & Angold, 2005; Weeks et al., 2014); more research is required to understand the social and psychological impact of these issues from educational and relational perspectives. A pattern of difficult educational experiences impacts mental health and the impact of LD prevails across the lifespan. For example, adults with LD have 46% higher odds of having ever attempted suicide, compared to other adults without LD and even while statistically controlling for many known suicide risk factors (Fuller-Thomas et al., 2018). The findings from the present research contribute to knowledge of psychological, educational, and social outcomes for people with LD and their families.

Terminology Definitions

In the current empirical literature on the topics of LD and internalized problems among youth there is a lack of consistency and clarity in defining these constructs. In this dissertation, LD and mental health problems are defined according to frequently utilized sources in Canadian education and mental health contexts, such as the Learning Disabilities Association of Canada (LDAC) and the American Psychiatric Association. Within the field of education (e.g., counselling, special education, educational psychology), definitions vary and specific terms are

used more frequently than others (e.g., the term “internalizing problems” is most common in education, clinical psychology, psychiatry, and child developmental journals, but less common in counselling and family studies journals). Clinical psychological and psychiatric contexts most often use the terms associated with the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5, American Psychiatric Association, 2013) or terms that reflect clinical standardized measures. In this dissertation, when citing literature, the specific terms used by authors (e.g., internalizing disorders, elevated symptoms of anxiety or depression) are maintained in order to represent the studies accurately. In addition, there are, at times, different terms used in differing contexts; the quantitative and qualitative chapters reflect different methodological paradigms and associated language. To illustrate, the language and terms in Study 1 (described in Chapter Four) are closely linked to the quantitative measures used (e.g., self-reported internalized distress), whereas in Study 2 (described in Chapter Five) parents and youth described their “anxiety and depression” and “stress” during interviews—their language reflects their personal experiences rather than clinical or assessment terminology. LD and mental health are complex constructs that involve multiple perspectives and explanations.

Learning Disability. A prominent Canadian scholar in LD, Linda Siegel, states that “the definition of LD has been confused and imprecise” (Siegel, 2012, p. 64). Variation in definitions of LD is not unique to Canadian educational systems, nor is it a contemporary phenomenon (Kozey & Siegel, 2008). Many provinces have adopted the LD definition used by the LDAC as explained in Kozey’s and Siegel’s (2008) compilation of provincial and territorial policy information on LD. The official definition of learning disabilities adopted in 2002 by LDAC and re-endorsed in 2015, refers to learning disabilities as “disorders which may affect the acquisition, organization, retention, understanding, or use of verbal or nonverbal information. These

disorders affect learning in individuals who otherwise demonstrate at least average abilities essential for thinking and/or reasoning . . . learning disabilities result from impairments in one or more processes related to perceiving, thinking, remembering or learning” (Learning Disabilities Association of Canada, 2017, para. 1-2). Individuals with LD experience unexpected and significant difficulties in academic achievement and related areas of learning and behaviour that are neither due to poor instruction nor attributed to medical, educational, environmental, or psychiatric causes (American Psychiatric Association, 2013).

The current version of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5, American Psychiatric Association, 2013) uses the term “specific learning disorder” to reflect diagnostic definitions and criteria. The diagnosis requires persistent difficulties in reading, writing, arithmetic, or mathematical reasoning skills during childhood. Symptoms may include inaccurate or slow and effortful reading, poor written expression that lacks clarity, difficulties remembering number facts, or inaccurate mathematical reasoning (American Psychiatric Association, 2013). A specific learning disorder is diagnosed through comprehensive clinical assessments of the individual’s developmental, medical, educational, and family history; results from norm-referenced and other measures; teacher observations; and responses to academic interventions (American Psychiatric Association, 2013). Siegel has also published many scholarly articles advocating for more precise LD definitions and identification based on achievement scores rather than excessive psychological testing (e.g., Siegel, 1991, 1999) and, alternatively, testing using Response-to-Intervention (RTI; Siegel, 2009) as means to assess strengths and difficulties and to develop the most appropriate academic intervention. How to conceptualize LD has been of longstanding interest to not only researchers but to practitioners who must identify and support struggling students (Shaywitz, Morris, & Shaywitz, 2008).

The prevalence of learning disorders ranges from 2% to 10%, depending on the nature of ascertainment and the definitions applied – approximately 4% of students in public schools are identified as having a learning disorder (American Psychiatric Association, 2000). According to the 2012 Canadian Survey on Disability, 622,300 Canadians 15 years and older reported LD, representing 2.3% of the population (Statistics Canada, 2012). More specifically, among people aged 15- to 24-years-old, 4.4% reported at least one type of disability with 2.0% reporting LD, demonstrating nearly half of the reported disabilities are LD for this age group. Calder Stegemann (2016) posits that the ranges and difficulties in reporting accurate prevalence rates are due to lack of diagnosis and stigmatization. The most common learning disorder is a reading deficit, also commonly referred to as dyslexia. It has been estimated that approximately 80% of those identified as LD have dyslexia (American Psychiatric Association, 2000; Shaywitz et al., 2008). In their seminal paper on defining dyslexia, Lyon, Shaywitz, and Shaywitz (2003) posit that dyslexia is:

characterized by difficulties with accurate and/or fluent word recognition and by poor spelling and decoding abilities. These difficulties typically result from a deficit in the phonological component of language that is often unexpected in relation to other cognitive abilities and the provision of effective classroom instruction. Secondary consequences may include problems in reading comprehension and reduced reading experience that can impede growth of vocabulary and background knowledge. (p. 2)

Throughout this dissertation, “learning disability” (LD) is the term used to collectively refer to reading (or dyslexia), math, or writing deficits or a diagnosed specific learning disorder.

Mental Health. According to the Mental Health Commission of Canada (2015), “mental health is a state of wellbeing in which you can realize your own potential, cope with the normal

stresses of life, work productively, and make a contribution to your community” (p. 3). Good mental health protects against the adversities of life and reduces the development of mental health problems (Mental Health Commission of Canada, 2015). Kieling et al. (2011) suggest that the global prevalence of mental health problems affecting children and adolescents is between 10 and 20 percent. Mental health problems, or more specifically and in more severe forms diagnosed mental *disorders*, comprise a broad range of problems with different symptoms that are generally characterized by some combination of abnormal thoughts, emotions, behaviours and/or relationships with others (World Health Organization, 2018). Often considered together as internalizing problems, depression and anxiety are frequently comorbid (Garber & Weersing, 2010; Kessler, Nelson, McGonagle, & Liu, 1996; Klenk, Strauman, & Higgins, 2011; van Lang, Ferdinand, Ormel, & Verhulst, 2006). Internalizing problems “signify a core disturbance in introjective emotions and moods [e.g., sorrow, guilt, fear, and worry]” (Zahn-Waxler, Klimes-Dougan & Slattery, 2000, p. 443). Achenbach and Edelbrock (1978) differentiate between internalizing or overcontrolled symptoms, including withdrawal, fearfulness, inhibition, or anxiety, and externalizing or undercontrolled symptoms, including deregulated behaviours such as aggression.

Across the lifespan, people with LD have been found to be at increased risk for mental health problems (Wilson, Armstrong, Furrie, & Walcot, 2009). In general, anxiety disorders in childhood often precede the onset of depressive symptoms in adolescence and young adulthood; less evidence exists of depression preceding anxiety (Birmaher et al., 2004; Cole, Peeke, Martin, Truglio, & Seroczynski, 1998; Garber, 2006; Garber & Weersing, 2010; Kovacs & Devlin, 1998). Children as young as eight years old, adolescents, and adults have reported symptoms of distress shown through elevated scores on clinical measures of anxiety and depression (Maag &

Reid, 2006; Wilson et al., 2009). Among people 18 years and older with LD, those who had reported a depressive disorder were 7.5 times more likely to attempt suicide compared to peers without histories of depressive disorders (Fuller-Thomas et al., 2018).

Over the past decade, increasing attention has focused on the psychological development of children and adolescents due to growing rates of depression and anxiety (Collinshaw et al., 2010; Kessler, Sharp, & Lewis, 2005). The Canadian Community Health Survey (2012) results indicated seven percent of adolescents aged 12- to 19-years-old report having received a diagnosis of an anxiety and/or depressive disorder—this rate reflects a higher incidence than previous survey results, signifying an upward trend (Pelletier, O'Donnell, McRae, & Grenier, 2017). Without a doubt, the prevalence of mental health problems in schools has become an important (and persistent) topic of discussion as teachers, counsellors, administrators, and families grapple with internalized distress in youth and become increasingly aware of the lifelong impact. While many adolescents will not meet the DSM criteria for a mental disorder, subthreshold internalized distress symptoms may be risk factors for the development of subsequent diagnosable mental disorders (Ashford, Smit, van Lier, Cuijpers, & Koot, 2008; Weeks et al., 2014). The primary focus in this dissertation is on internalizing problems that are expressed as symptoms of anxiety and depression in a non-clinical sample of youth with LD.

Throughout this dissertation, “mental health problems” is used to represent the broad range of problems described above by the World Health Organization (2018). “Internalizing problems” is used to indicate anxiety and depression. “Internalized distress” is used in reference to symptoms across anxiety and depression; this term is commonly used in rating scales used to identify mental health problems.

Theoretical Framework

The association between LD and internalizing problems has become increasingly recognized (Klassen, Tze, & Hannok, 2013; Maag & Reid, 2006; Mugnaini, Lassi, La Malfa, & Albertini, 2009; Nelson & Harwood, 2011). The co-occurrence of these types of difficulties produces increasingly multidimensional descriptions that go beyond a linear explanation and rather account for mutually influencing individual and contextual relations. The current research is situated within a relational developmental systems framework (Overton, 2015) and draws on a social ecological resilience model (Rutter, 2006; Ungar, 2012) to understand influences on youth development. These perspectives align with contextual understandings of human resilience and development; research from these perspectives serves to recognize the individual, family, community, and system levels of influence. This model is directly relevant to the current research, because the impetus is to increase understanding of not only the personal, but also the familial influences on youth with LD.

Relational Developmental Systems Conceptual Framework

The relational developmental systems conceptual framework is an ecological approach to the scientific study of intraindividual changes, integrating biological, cultural, and historical influences with the understanding of human development (Overton, 2015). This perspective of development emphasizes the mutually influential relation between individuals and their multiple levels of context (Lerner, Lerner, & Benson, 2011). Represented as individual and contextual relations, these bidirectional relations regulate the pace, direction, and outcomes of the courses of development (Lerner et al., 2011). Through embodied activities and actions operating coactively in a lived world of physical and sociocultural objects, developmental change occurs according to the principle of probabilistic epigenesis (Overton, 2015). This principle states that the role of any

part of relational developmental systems (e.g., gene, cell, organ, organism, physical environment, culture) is a function of all the interpenetrating and coacting part processes of the system (Overton, 2015). Systems are identified as being situated in time and place and completely contextualized. This contextualization of systems is significant because it points to the necessity of exploring multiple levels of influence. Bronfenbrenner's bioecological theory is one such exemplar situated within the relational developmental systems framework (Bronfenbrenner & Morris, 2006).

Ecological systems models place the individual child at the centre of a system of bidirectional influences that range from close (home/parents) to more distal proximity (culture/time) in their impact on children's development (Bronfenbrenner, 1992; Bronfenbrenner & Morris, 2006). The ecological perspective supports an understanding of development as a joint function of environmental influences and child characteristics. Conceptions of development shift from traditional psychological processes (e.g., perception, thinking) to emphasis on context and to what the developing child desires, fears, or considers as a function of interaction with the environment (Bronfenbrenner, 1979). Thus redefined, development involves the child's perceptions, relations, and capacities to discover and alter their environment.

Bronfenbrenner's (1986) conceptualization of developmental contexts is reflected in four levels which are ordered from the most proximal to the most distal spheres of influence. The microsystem includes the structures and processes taking place in an immediate setting containing the developing person (e.g., home, classroom). The mesosystem involves the relations among two or more settings containing the developing person (e.g., relation between home and school). The mesosystem is a system of microsystems. The exosystem comprises the links and processes between two or more settings, at least one of which does not contain the developing

person (e.g., the relation between the home and the parent's workplace). Any social institution that makes decisions that affect conditions of family life can function as an exosystem. Lastly, the macrosystem is the overarching pattern of ideology and organization of the social institutions common to a particular culture or subculture. This last level is the summative pattern of micro-, meso-, and exosystems characteristic of a particular society (Bronfenbrenner, 1986).

The person-process-context framework empirically informs the examination of the mediating influences among the levels, such as the familial level in the present research, that are theorized to shape development and influence adverse outcomes. Lerner, Arbeit, Agans, Alberts, and Warren (2013) propose that the overarching goal of adolescent developmental research is to identify the individual and ecological conditions that reflect *resilience*. Resilience represents the many ways in which individuals adapt successfully to adversity (Egeland, Carlson, & Sroufe, 1993; Rutter, 2012; Wright & Masten, 2015). Adversity is defined as "stressful life experiences that threaten adaptation or development" (Wright & Masten, 2015, p. 6). Based on this definition, theoretically, LD and co-occurring mental health problems threaten adaptation for youth. Resilience is a dynamic attribute of the association between youth and the multiple levels of their developmental system and reflects features that protect development despite threats (Rutter, 2012). Relevant to the present research, influences such as youth social and emotional competencies and family factors are important to explore. The social ecological resilience perspective aids the understanding of the influences that benefit relational developmental systems for youth with LD and mental health problems.

Social Ecological Resilience

Lerner et al. (2013) assert “Adolescents are not resilient” (p. 293). Rather, resilience is a dynamic link between an individual and their multi-level, relational developmental system (Lerner et al., 2013; Rutter, 2012). Lerner et al. (2013) posit that “person-context relationships summarized as resilient reflect individual well-being at a given point in time, and thriving across time, in the face of features within the ecological context that challenge adaptation” (p. 276). Resilience is a recognized and familiar term to both the lay public and scholarly communities (Masten, 2001). Yet, despite its widespread use, the construct of resilience has been the source of definitional debates (Wright & Masten, 2015). Earlier studies, or “the first interpretations” (Ungar, 2012, p. 13) using the construct of resilience, focused on the individual as the locus of change (Werner, 1993). Individual qualities were hypothesized to protect or place an individual at risk from environmental stressors. This approach emphasized an individual’s temperament and focused less on social process and interacting environment as conditions of risk and growth. Ungar (2012) states that studies of “individual qualities limit our understanding of psychological phenomena to a fraction of the potential factors that can explain within and between population differences” (p. 14). More recent perspectives are shifting from the view of resilience as an individual trait to the view that resilience is a process facilitated by families, schools, and communities (Egeland et al., 1993; Rutter 2006; Ungar, 2012). From this process-relational perspective of human development, social ecologies (e.g., family, school, neighbourhood, government, cultural practices) are as influential as (individual) psychological aspects of development when individuals are under distress (Ungar, 2012). An interactional, environmental, and culturally pluralistic perspective provides a process-relational ecological perspective to understanding resilience (Ungar, 2012). In sum, an ecological understanding of resilience takes

into account the complexity of developmental relational systems and the mutually influential levels to explain positive growth under adverse conditions.

Ungar's (2008, 2012) social ecological model of resilience further defines resilience as a "set of behaviours over time that reflect the interactions between individuals and their environments, in particular the opportunities for personal growth that are available and accessible" (Ungar, 2012, p. 14). Furthermore, how these interactions influence development under adversity depends on the meaningfulness of opportunities and the quality of resources. In this research, the social ecological approach supports the purpose to explore the role of resources and influences when individuals and their families are under distress due to youth LD.

Ecological approaches to resilience examine the "nature of the threat to adaptation and the quality of adaptation following the threat exposure" (Wright & Masten, 2015, p. 5). Threats to adaptation have often been coined as "risk" or adversity or stressful life events signifying increased likelihood of negative outcomes. Wright and Masten (2015) suggest that risk can be a problematic term, because it does not indicate the precise nature of the threat to an individual or differentiate which individuals in the risk group will experience a negative outcome. Risk is multifaceted and risk factors frequently co-occur, so rather than using the term "at risk," recent human resilience scholars focus on the assessment of "cumulative risk" (Wright & Masten, 2015, p. 5). From a cumulative and contextual perspective, outcomes generally worsen and resilience becomes less likely as unresolved risk factors add up. In contrast, positive adaptation may be the absence of psychopathology, success in age-relevant developmental tasks, subjective well-being, and relational competence (Egeland et al., 1993; Wright & Masten, 2015). In the present study, positive adaptation may include successful managing of mental health problems, positive educational outcomes, optimistic and confident mood, and supportive family relationships.

In studying resilience, the search for “clues to protective processes” (Masten & Tellegen, 2012, p. 347) to understand how children and youth adapt in the context of adversity is regularly pursued. Masten (2001) compiled convergent findings on promotive and protective factors as the “short list” of the most influential factors to development, including: positive relationships with caring adults; effective parenting; intelligence and problem-solving skills; achievement motivation; self-regulation skills; effective stress management; positive friendships; and effective teachers. Competence has long been theorized and evaluated as a key indicator of adaptation (Garmezy & Devine, 1984; Masten et al., 1999). Defined as learned attitudes, aptitudes, behaviours, and manifested capacities for confronting and actively managing life challenges, competence is focused on age-specific developmental skills (Griffin, Scheier, Botvin, & Diaz, 2001; Masten, Herbers, Cutuli, & Lafavor, 2008). For example, as children develop, social competence defined by interpersonal skills will expand from childhood into adolescence to include competencies related to romantic and employment relationships. Developing competencies among youth are recognized ways of supporting youth to improve educational and psychological outcomes. In the current research, youth social and emotional competencies are explored.

Risk categories such as mental health problems comprise youth with a wide variety of experiences due to differences in family, economic, and educational resources. Experiences also vary as a function of age, gender, and developmental factors. Many adolescents with co-occurring learning difficulties and mental health problems have overwhelming school failure experiences that negatively influence confidence (Mather & Ofiesh, 2006). Negative cycles can be set in motion whereby the child believes that things will not improve, and this sense of hopelessness becomes a barrier to future successes. Mather and Ofiesh (2006) suggest that when

children are not reinforced through positive academic and social experiences, they have a “lower tolerance for failure and do not have the emotional reserve” (p. 241). Repeated failed attempts at mastering academic tasks can lead to feelings of frustration, further exacerbating, or generating, emotional, behavioural, and learning challenges resulting in cumulative risk. These unresolved risk factors impact the functioning of the family system. Masten et al.’s (1999) longitudinal study highlighted the unique role of parenting in adolescence, demonstrating that parenting in childhood predicted social competence in adolescence (more than parenting in adolescence) and that parents changed their parenting to influence competence in their adolescent. These results highlight that children and youth influence the quality of their resources and that these coactional processes are of utmost importance to the study of development. Familial influences are less frequently explored in the literature on children and youth with LD. Familial influences such as increased levels of parental stress (Bonifacci, Storti, Tobia, & Suardi, 2016) and family functioning difficulties (Al-Yagon, 2016) have been documented among parents of youth with LD and are central issues that were closely explored in the current research.

Summary

Relational developmental systems provides the conceptual framework for the theoretical understanding of the relation between LD and mental health problems. These associations are not due to linear causal relations: from this perspective, LD does not directly cause mental health problems. However, LD and mental health problems are coactional and influence the person-process-context relations. The application of social ecological resilience perspectives denotes the ways in which youth and their families adapt despite stressful life events, such as LD diagnosis and anxiety or depression. The social ecological resilience model is not only aligned with the relational developmental systems person-process-context relations framework, but additionally

seeks to identify the promotive and protective influences on youth development. Cumulative risk factors, alongside positive adaptation defined at the level of the individual, family, community, or broader system, are at the crux of research on individual human resilience. Enhancing promotive and protective factors is theorized to prompt adaptation to stressful and adverse life situations (Lee, Cheung, & Kwong, 2012). In the present research, exploring mediating factors inherent in the coactional relation between youth LD and internalizing problems supports the understanding of buffering influences at the level of the individual and the family. Specifically, in Study 1 social and emotional competencies and familial influences such as family functioning and parenting behaviours were examined to understand the direct and indirect factors predicting symptoms of anxiety and depression among youth with LD. In Study 2, youth and parent perspectives were elicited to further explain factors that influence youth with LD.

CHAPTER TWO: LITERATURE REVIEW

Co-Occurrence of LD and Internalizing Problems

The emphasis of the present research is on youth anxiety and depression, hence this literature review focuses on the co-occurrence of LD and internalizing problems. As mentioned in Chapter One (terminology descriptions section), anxiety and depression (internalizing problems) are commonly comorbid and, in reviewing the literature, anxiety and depression were often assessed together. The crux of this literature review examines the empirical literature on the co-occurrence of LD and internalizing problems from childhood to young adulthood. The review does not examine additional mental health problems such as externalizing problems (e.g., oppositional defiant disorder) or suicide. Studies were selected based on the following criteria: (a) empirical study published in a peer-reviewed scholarly journal; (b) published from 2000 to 2017; (c) studies reported that the participants were people with learning disabilities; (d) studies reported using an instrument to assess anxiety, depression, or both. This review of literature describes the most recent meta-analyses followed by specific findings of empirical studies that met inclusion criteria. A review of the research on the developmental aspects of the co-occurrence phenomena is presented in order to increase understanding of the impact of LD across developmental periods. Lastly, selected empirical research examining the role of familial influences such as parent mental health, parenting behaviours, and family functioning concludes this literature review. From an ecological perspective, examining only the direct association between LD and internalizing problems does not account for varying levels of influence. In the present research, including the family-level factors in studying the association between LD and internalizing problems is driven by the person-process-context theoretical framework.

Meta-Analytic Findings

In reviewing the current literature, evidence demonstrates that children, adolescents, and adults with LD experience significantly higher levels of anxious and depressive symptoms compared to general populations without learning disabilities (Klassen et al., 2013; Maag & Reid, 2006; Mugnaini et al., 2009; Nelson & Harwood, 2011). For students with LD in kindergarten through grade 12, Nelson and Harwood's (2011) meta-analysis demonstrated an overall statistically significant effect size of medium magnitude ($d=.61$) on measures of anxiety, whereas Maag and Reid's (2006) meta-analysis demonstrated an overall statistically significant effective size of small to moderate magnitude ($d=.35$) on measures of depression. Both depressive and anxious symptomology among students with LD is higher than among their peers without learning disabilities; however, results do not necessarily indicate that these students experience clinically significant symptomology (Maag & Reid, 2006; Nelson & Harwood, 2011). Among students in first grade to university level, Mugnaini and colleagues (2009) reported medium to large effect sizes or odds ratios for 11 studies that confirmed dyslexia as a specific risk factor for increased anxious and depressive symptoms. Among individuals with LD aged 18 and older, Klassen and colleagues' (2013) meta-analysis of internalizing problems (namely, anxiety and depression) demonstrated a statistically significant effect size of medium magnitude ($d=.51$). In particular, the results from this study revealed that adults with LD reported significantly higher levels of anxious symptoms than depressive symptoms.

Notably, Nelson and Harwood (2011) did not find sex or grade level (elementary, middle, or high school) to be significant moderating variables among students with LD. Nor did Klassen et al. (2013) find sex to be a significant moderating variable among adults with LD, but their results did reveal a significant difference across age groups: younger adults (< 30 years) reported

more internalizing symptoms than middle-aged adults (> 30 years). Additionally, contrary to evidence to date, Klassen and colleagues' (2013) findings did not reveal a significant difference for the experience of internalizing problems between participants in postsecondary education and participants in the general population.

Childhood

Heath and Ross (2000), Graefen, Kohn, Wyschkon, and Esser (2015), Mammarella et al. (2016), Martinez and Semrud-Clikeman (2004), Sideridis (2007), and Thakker et al. (2016) studied internalizing problems among students from fourth to eighth grade (about 9 to 13 years old). Heath and Ross (2000) found the prevalence of depression was only marginally different between students with and without LD. However, their results indicated a differential influence of LD on girls' versus boys' reports of depressive symptomology, whereby girls with LD reported more depressive symptomology than their non-LD peers (Heath & Ross, 2000). This LD effect was not observed among boys. In Martinez and Semrud-Clikeman's (2004) study examining children with multiple and single LD, children with reading and mathematics LD reported significantly more impairment on depression measures than either the typically achieving children or the single LD group. Graefen et al.'s (2015) research on youngsters they term "preadolescents" (ages 9 to 14 years) revealed that preadolescents with a math disability displayed more depressive symptoms than those without a math disability, though the internalizing symptoms did not reach clinical levels. Subclinical levels of depressive symptoms in childhood may lead to more severe concerns, like clinical depression, during the adolescent years (Greenham, 1999). Consistent with Heath and Ross (2000), Martinez and Semrud-Clikeman's (2004) and Graefen et al.'s (2015) findings suggest that girls report significantly more depressive symptoms relative to boys.

Thakkar et al. (2016) compared clinical levels of anxiety as measured by the Spence Children's Anxiety Scale (SCAS; Spence, 1998) among 8- to 11-year-olds with newly diagnosed LD compared with matched non-LD peers. A significantly higher number of 8- to 11-year-old students with LD were found to have clinical anxiety compared to their peers, and this result was not influenced by gender. While the presence of comorbid ADHD did not increase the odds of being "clinically anxious" among LD students, Thakker et al. (2016) found that 45% of students had comorbid ADHD (with LD) and clinical levels of anxiety. Mammarella et al. (2016) also studied a group of children aged 8 to 11 years, examining different types of LD (reading vs. nonverbal LD) and different profiles of anxiety. Using the Self-Administered Psychiatric Scales for Children and Adolescents (SAFA; Cianchetti & Fancello, 2001) to assess different types of anxiety (generalized, social, separation, and school) results indicated that, overall, children with nonverbal LD and reading disabilities had more anxiety symptoms than their peers without LD. Mammarella (2016) found LD groups reported higher levels of generalized and social anxiety than their peers without LD. The nonverbal group also reported higher levels of school and separation anxiety as compared to the reading disability group and peer group without LD. Mammarella et al. (2016) also found that children with a reading disability had more severe symptoms of depression compared to both the nonverbal LD group and the peer group without LD.

Sideridis's (2007) study of elementary school students examined a goal orientation model for explaining why students with LD are depressed. From this third variable perspective, Sideridis found significant associations between performance avoidance goals and anxiety and depression, but no associations between mastery goals and anxiety and depression in students with LD. Performance-oriented individuals seek to establish that their ability is adequate and

want to avoid demonstrating incompetence, while mastery-oriented individuals view each achievement situation as an opportunity to learn and master new materials, notwithstanding their ability (Sideridis, 2007).

Adolescence

The current literature on adolescents suggests internalizing problems are associated with LD. Willcutt and Pennington's (2000) study of 8- to 18-year-old twins ($n = 209$ individuals with LD, $n = 192$ individuals without LD in community control sample) found that reading disorders were significantly associated with depressive symptoms. In their study, individuals with reading disabilities were more likely to meet diagnostic criteria for anxiety and depressive disorders. In other studies, consistent with findings in childhood research, females reported significantly more symptoms of depression compared to males with reading disabilities (Heath & Ross, 2000, Graefen et al., 2015; Martinez & Semrud-Clikeman, 2004). Findings from Willcutt and Pennington's (2000) preliminary etiological analyses suggest that internalizing symptoms are specifically associated with reading disorders and are not attributable to more general family factors. Moreover, the authors found the association between LD and externalizing symptoms was at least partially attributable to common family factors. While the sample was not large enough to provide sufficient power for behavioural genetic analyses, their findings support the academic difficulties perspective, because they suggest that among children with LD, academic difficulties may predispose children to become more withdrawn, anxious, and depressed.

Feurer and Andrews (2009) and Howard and Shick Tyron (2002) studied school-related variables among students aged 13 to 19 years. Feuerer and Andrews (2009) examined the association between school-related stress and depression among adolescents with LD. School-related stress variables included peer interaction, teacher interaction, and academic self-concept

measures. Academic self-concept referred to students' perceptions of their academic abilities and performance. Feurer and Andrews' (2009) results indicated that adolescents in the LD group experienced higher levels academic self-concept stress, compared to a non-LD group. However, surprisingly, both groups reported elevated levels of depression (moderate to severe levels) as measured on the BDI-II (BDI-II; Beck, Steer & Brown, 1996). These findings underscore the importance of a more rigorous sampling method for control groups in future studies (e.g., avoid convenience control group samples).

Howard and Shick Tyron (2002) hypothesize that depressive symptoms in adolescents with LD are associated with variables such as self-contained classroom compared to general classroom placements. Among the 52 participants in their study, over 40% of adolescents with LD rated themselves, or were rated by their guidance counsellors, with severe symptoms of depression and clinically significant levels of depression (as rated on BDI-II). While there was no significant difference in adolescent-rated depression scores relative to type of classroom placement, guidance counsellors viewed students with LD in the general classroom as more depressed than those in self-contained classrooms (self-rated and guidance counsellor-rated depression scores were not significantly correlated; Howard & Shick Tyron, 2002). Contrary to the hypothesis, students in the self-contained classrooms were not rated as more depressed than the students in the general classroom by guidance counsellors. Howard and Shick Tyron suggest that adolescents in self-contained classrooms may not perceive a discrepancy between requirements for themselves and for typically achieving students, and hence are not subjected to pressures that might result in depressive symptoms.

Young Adults

Selected literature on young, or emerging adults (typically classified people aged 19 to 29 years) has also been included in the review because several studies with young adolescent participants also included young adult participants. A number of studies included very broad age ranges. For example, Wilson and colleagues' (2009) participants were 15- to 44-years-old. Moreover, understanding co-occurrence phenomena into adulthood provides an in-depth understanding of the impact of LD throughout the lifespan.

Carroll and Illes (2006), Davis, Nida, Zlomke, and Nebel-Schwalm (2009), Ghisi, Bottesi, Re, Cerea, and Mammarella (2016), and Nelson and Gregg (2012) studied internalizing problems linked with LD in 17- to 29-year-old students. Among postsecondary students, Carroll and Illes (2006) found that students with dyslexia experienced higher levels of trait anxiety (defined as a relatively stable personal characteristic) than non-LD students with respect to both academic and social situations. Ghisi et al. (2016) found that university students with dyslexia reported higher levels of depressive symptoms and lower levels of self-esteem compared to control groups. Davis and colleagues (2009) researched health-related quality of life in undergraduates with LD and found that students reporting LD experienced an impaired sense of well-being associated with anxious and sad feelings. In contrast, Nelson and Gregg (2012) found that college students with dyslexia did not significantly differ on self-reported symptoms of depression and anxiety when compared to college students without dyslexia. However, more females with dyslexia reported symptoms of depression and anxiety than males with dyslexia (Nelson & Gregg, 2012).

Wilson and colleagues' (2009) nationally representative Canadian sample of 670 people with LD examined rates of mental health problems among people aged 15 to 44 years. The

percentage of reported mental health problems for people with LD increased from adolescence and young adulthood (aged 15 to 21 years) compared to reported results of mental health problems in the general population of people without LD (Wilson et al., 2009). Wilson et al. (2009) found that people with LD were more likely to report having had a depressive episode or anxiety disorder, and overall were two to five times more likely to report mental health problems than people without LD. Wilson and colleagues (2009) also found that being a student with LD was associated with reporting poorer mental health and more incidences of suicidal ideation. Nelson and Gregg (2012) found that compared to transitioning high school students, college students with LD reported more symptoms of anxiety and depression.

Summary Implications

While there are some inconsistencies in the empirical literature regarding the association between LD and internalizing problems among children with LD, there is ample evidence that adolescents and adults with LD experience higher levels of internalized distress than their non-LD peers. Moreover, across the lifespan, considerable evidence supports the finding that from childhood through early adulthood, females with LD generally experience higher levels of internalized distress than males (Graefen et al., 2015; Heath & Ross, 2000; Martinez & Semrud-Clikeman, 2004; Nelson & Gregg, 2012; Willcutt & Pennington, 2000). Among the reviewed empirical studies, methodological limitations included issues such as small sample size, absence of control groups, large age ranges, and lack of detailed LD criteria and internalizing problems terminology. In the present research some of these limitations are addressed through the use of secondary data from a large Canadian sample and the use of detailed terms.

Findings from the existing literature highlight the association between LD and internalizing problems, however, less research has explored the role of additional variables that

represent multiple levels of influence, such as family. The current research addresses this gap in the literature through the examination in Study 1 of not only the direct, but also the indirect, effects of personal and familial variables. From an ecological perspective, exploring both the personal and familial influences is pertinent to identifying correlates relevant to adaptation and successful outcomes. The existing literature base examining the co-occurrence of LD and internalizing problems among children, youth, and adults has most commonly analyzed individual descriptive variables such as gender, age, type of LD, and type of disorder. There appears to be a paucity of studies that have investigated the co-occurrence of LD and internalizing problems that also include an examination of family or broader system-level factors. The current research not only investigates the LD and internalizing problems relation, but also examines mediating familial influences. Considering the family-level of influence on the co-occurrence of LD and mental health problems, a brief review of familial influences is next described.

Selected Research on Familial Influences

Parent Mental Health. Bonifacci and colleagues' (2016) preliminary study assessing possible emotional and behavioural correlates of LD within the family system demonstrated that parents of children with LD exhibited higher levels of parental distress. While children with LD did not self-report elevated levels of anxiety and depression, parents rated their children with LD as experiencing elevated levels of anxiety and depression, compared to typically developing children. Children of parents with mental health problems are often found to be at risk for developing mental health disorders, such as anxiety and depression. Parent depression negatively affects children's development and parenting behaviours (Beardslee, Gladstone, & O'Connor, 2011; Letourneau et al., 2013). Among a sample of children aged 11 to 16 years old, children

with a parent with a mental health diagnosis were found to have more internalizing and externalizing problems than other children (Van Loon, Van de Ven, Van Doesum, Witteman, and Hosman, 2014; Van Loon, Van de Ven, Van Doesum, Hosman & Witteman, 2015). Van Loon et al. (2014) found that parents with a mental health diagnosis reported significantly less family cohesion and expressiveness and more conflict in the family system, compared to parents without a mental illness. Up to 75% of families with a child with LD considered the child's LD to exert a negative effect on family life, and mothers reported elevated symptoms of anxiety and depression (Karande, Kumbhare, Kulkarni, & Shah, 2009; Snowling, Mutter, & Carroll, 2007). Mothers of children with LD tend to have high levels of avoidant coping (Al-Yagon, 2015), and both parents tend to experience higher levels of distress (Beardslee et al., 2011; Bonifacci et al., 2016), compared to families of typically developing children without LD. Parents' psychological profiles may have a reciprocal interaction with youth well-being. However, there is limited research to inform an in-depth understanding of this complex relation, which is closely examined in the current research. The current research aims to extend these preliminary findings and to advance existing knowledge by quantitatively examining the direct and indirect influences of parent depression on youth internalized distress and by qualitatively describing perspectives of youth with LD and their parents about mental health. From an ecological resilience perspective, advancing this understanding of mediating influences on youth with LD is warranted.

Family Functioning. Positive parenting and family functioning may protect against the negative impact of parental depression on children's health and development (Letourneau et al., 2013). Positive parenting, specifically parents' praising behaviour in relation to both early and late adolescents, has been found to be directly linked to better mental health outcomes (Tabak & Zawadzka, 2017). Existing research demonstrates early adolescents with LD are more sensitive

than their peers without LD to the quality of parental resources such as positive affect and attachment systems (Al-Yagon, 2010, 2011). Majorano, Brondino, Morelli, and Maes (2017) posit that positive parenting behaviours are crucial protective factors for adolescents with LD, because the presence of LD intensifies the association among parent-adolescent relationship qualities as well as adolescents' experience of loneliness and youths' self-concept.

Masten et al.'s (1999) longitudinal evidence indicates well-functioning parent-child relationships are important for overcoming cumulative adversities and hold a general developmental advantage. Letourneau, Salmani, and Duffett-Leger's (2010) results highlight family functioning as powerful predictors of parental warmth and nurturance. Bonifacci et al. (2016) speculate that having a child with LD has a significant impact on the parent's role. For example, parents may find it difficult to establish a routine of discipline (Bonifacci et al., 2016). Van Loon et al. (2014) found a direct relation between parental mental illness and youth internalizing problems, with only parental monitoring (out of the five selected family factors) mediating this relation. Youth reports of parental monitoring and support have been linked to positive outcomes under high-risk situations (Egeland et al., 1993). Letourneau et al.'s (2010) longitudinal findings of children from birth to 12 years suggest that mothers with symptoms of depression report less warm and nurturing parenting than mothers who are not symptomatically depressed. Al-Yagon's (2012) study of high school students with LD found less secure relationships with mothers (but not with fathers) compared to non-LD students. The relationship between children and their parents/caregivers is of utmost importance to healthy development. In the present research, both youths' and parents' perspectives of child-parent relationships are described.

Summary and Implications for Research Design

The phenomenon of co-occurring LD and internalizing problems has been increasingly recognized and empirically examined. However, systematic and comprehensive information about the factors related to development among youth with LD and internalizing problems, especially within a Canadian context, is still needed. The current research uses an appropriate sample to make statistical generalizations, to accurately reflect associations, and to provide pertinent data about influences that may buffer the relation between LD and internalized distress. Extending existing research through exploration of not only personal factors but also family-level factors, the present research builds on current understanding of youth with LD from an ecological perspective employing both the youths' and parents' perspectives. Additionally, the current research includes a descriptive component, adding to the small qualitative research base on this topic. Milsom and Granville (2010) suggest that using multiple perspectives (i.e., parent, youth, teacher) and qualitative methods to more fully examine the experiences of youth with disabilities will further contribute to our knowledge of how these factors and circumstances interact. Youth have much to teach researchers about the implications of disabilities in their lives; such a focus is currently lacking. The current research uses a mixed methods research design to explore the influences related to youth internalizing problems by analyzing direct and indirect youth and family variables and subsequently providing descriptive explanations about these influences on youth with LD from a family perspective. This methodological approach is described in the next chapter.

CHAPTER THREE: METHODOLOGICAL APPROACH

Mixed Methods Research

To comprehensively pursue the overarching research aim of exploring the co-occurrence of LD and internalizing problems among youth, a mixed methods research (MMR) design was deemed most suitable. MMR has dramatically evolved over the past 25 years (Creswell, 2010; Tashakkori & Teddlie, 2010). Johnson, Onwuegbuzie, and Turner (2007) composed a definition of MMR based on 19 different meanings from leaders in the MMR field. They state:

Mixed methods research is the type of research in which a researcher or team of researchers combines elements of qualitative and quantitative research approaches (e.g., use of qualitative and quantitative viewpoints, data collection, analysis, inference techniques) for the broad purposes of breadth and depth of understanding and corroborations. (Johnson et al., 2007, p. 123)

Teddlie and Tashakkori (2010) explain how *methodological eclecticism* is the first general characteristic of MMR. This means researchers use the “best” methods for answering research questions. Neither purely quantitative nor qualitative approaches alone could thoroughly and holistically explore the co-occurrence of LD and internalizing problems phenomenon. While establishing the direct relation and identifying mediating factors of this co-occurrence is needed, so too is hearing the voices of youth and families about their related experiences. The *centrality of the research question* is an endorsed characteristic of MMR, whereby researchers are “intended to move beyond philosophical issues (e.g., epistemological, ontological) associated with the paradigms debate” (Teddlie & Tashakkori, 2010, p. 10) and toward method selection most suited to the phenomenon. Another pertinent MMR characteristic relevant to this dissertation is the *iterative, cyclical approach to research* that encompasses deductive and inductive approaches (Teddlie & Tashakkori, 2010). This cycle of research, described as an explanatory sequential design, may be seen as moving from substantiated results, through

inductive logic, to general inferences about theory and practice. Teddlie and Tashakkori (2010) state that the future of MMR will “feature a more exotic mix” (p.16) of increasingly different methods mixtures. In the present research, using secondary analysis of an existing data set, followed by a two-case study method based on findings from the first study is a unique variation of explanatory sequential MMR with multiple samples (see Figure 1).

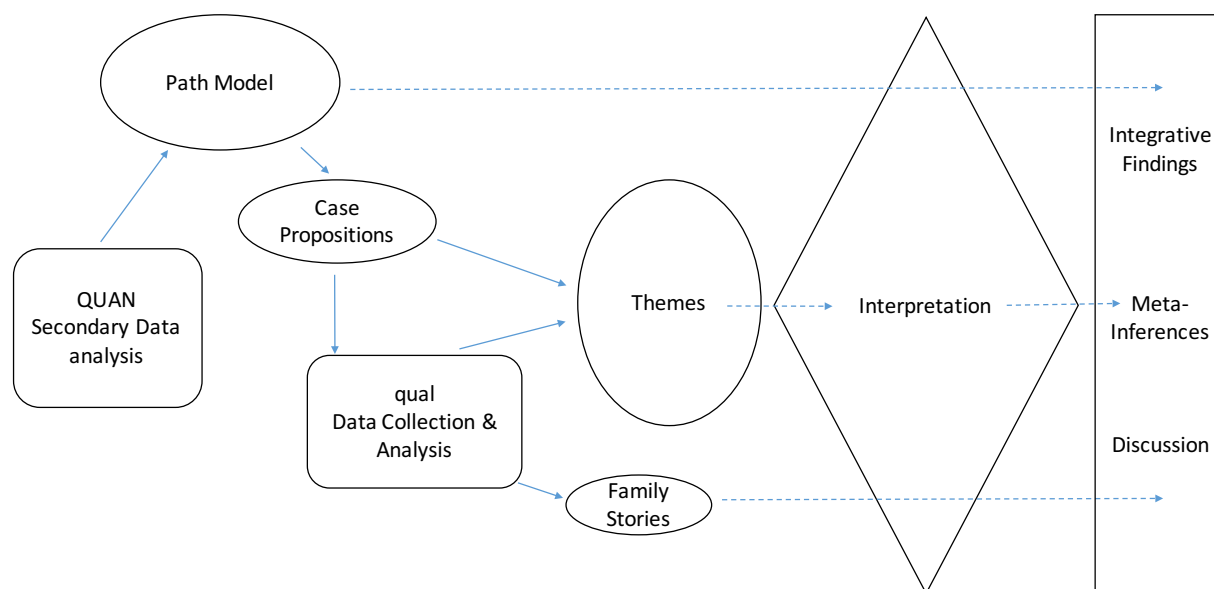


Figure 1. Explanatory sequential design.

There are many mixed methods research designs or “typologies” reported in the literature (Ivankova, Creswell, & Stick, 2006; Leech & Onwuebugzie, 2009; Onwuegbuzie & Collins, 2007). Creswell (2015) discusses the most frequently used designs, including an explanatory sequential design. Sequential design implies one study strand builds on another; explanatory QUAN→QUAL (see Hanson et al. [2005] for explanations of the procedural notation) designs involve an initial quantitative strand and subsequent qualitative strand (Creswell, 2015; Creswell

& Plano Clark, 2011; Ivankova, 2014; Leech & Onwuebugzie, 2009). In this MMR design, inferences are developed from the initial quantitative analyses and then qualitative approaches are used to examine and explore the research problem and quantitative results with added detail and depth (Ivankova, 2014). The strands may be connected in several ways, such as, selecting participants from the quantitative strand for follow-up qualitative interviews to better understand the initial findings; having quantitative results inform the development of emergent research questions; or developing data collection methods in the qualitative strand (Ivankova et al., 2006). Typically, the rationale for an explanatory sequential design is to provide a general understanding of a research problem quantitatively and then to refine and explain the statistical results in more depth qualitatively (Ivankova et al., 2006). Cited as the most popular approach to mixed methods designs among researchers, this design is not easy to implement rigorously (Ivankova et al., 2006). Methodological issues related to implementing explanatory sequential designs include: the priority given to the quantitative or qualitative data analysis (Creswell, 2015), the integration of data (Fetters & Freshwater, 2015; Onwuegbuzie, Slate, Leech, & Collins, 2009), and the quality criteria (Fabregues & Molina-Azorin, 2017; Ivankova, 2014). Practical examples of how to implement quality criteria in designing and conducting a sequential QUAN→QUAL mixed methods study designs remain scarce (Ivankova, 2014). MMR in counselling literature is gaining popularity, yet remains a small minority of research design (Ponterotto, Mathew, & Raughley, 2013). MMR is arguably well-suited to researching counselling-related issues. Combining qualitative and quantitative data can mirror applied counselling psychology as the practitioner often “merge[s] quantitative assessments with qualitative information about a client’s experiences and the meaning of those experiences” (Plano Clark & Wang, 2010, p. 428). The current research adds to the small base of sequential

mixed methods studies and uniquely demonstrates integration of data through the implementation of case propositions (described in Study 2, Chapter Five) and meta-inferences (integrative findings described in Chapter Six).

Overview of Study 1 and Study 2

The explanatory sequential design began with Study 1 (quantitative) using data from the National Longitudinal Survey of Children and Youth (NLSCY; Statistics Canada, 2008) to investigate the relation between family and youth factors and internalized distress in a group of 14- and 15-year-olds diagnosed with a LD. Secondary data analysis identified associations among the LD group and internalized distress; revealed variables such as family functioning and parental depression as mediators of this association; and examined the direct relation of social and emotional competencies, such as interpersonal, intrapersonal, stress management, and adaptability factors, on this association. The findings from the quantitative study were considered in more depth in the qualitative case studies, thus expanding the investigation to explain the central findings emerging from the first study.

Study 2 involved a two-case study (Yin, 2014) that followed the quantitative analysis completed in Study 1. The two-case study focused on experiences related to co-occurring LD and mental health problems from both youth and parental perspectives. Using in-depth interviews, the purpose of this qualitative strand was to add depth and detail related to the results from the quantitative strand regarding the influences on youth mental health. The quantitative findings from Study 1 informed and established the specific propositions used for the subsequent two-case study; these propositions were the central point of (mixed methods) integration which guided the qualitative data collection and analysis. While the findings from the quantitative study shed light on the “big picture,” the qualitative findings represent a deeper exploration of

experiences of the LD and internalizing problems phenomenon. An overall depiction of the mixed methods phases, procedures, and products is presented in Figure 2. The detailed methodological procedures and findings are described for each study in Chapters Four and Five.

Phase	Procedure	Product
Strand I Quantitative Data Collection	<ul style="list-style-type: none"> Secondary data access application for NLSY 	<ul style="list-style-type: none"> Anonymized survey data for requested variables/measures
	<ul style="list-style-type: none"> Quantitative Data Analysis Missing data Frequencies, Chi Square Multiple regression Indirect and direct effects calculations Sobel Test 	<ul style="list-style-type: none"> Descriptive statistics Significant associations Path analysis using standardized coefficients Significant mediation effects
Strand II Connecting Quantitative and Qualitative Strands	<ul style="list-style-type: none"> Development of case propositions based on Strand I results. Purposefully, "theory-based" criteria for participants 	<ul style="list-style-type: none"> Interview questions Selection of participations (two families)
	<ul style="list-style-type: none"> Qualitative Data Collection Youth and parent interviews (2 youth and 2 parent interviews) Collection of related documents 	<ul style="list-style-type: none"> Text data including interview transcriptions, Individualized Education Plan documents, and psychoeducational assessment reports
	<ul style="list-style-type: none"> Qualitative Data Analysis Inductive ghostwriting approach to family stories Coding and thematic analysis of transcripts from case propositions 	<ul style="list-style-type: none"> Two family stories Case propositions themes
Integrative Findings	<ul style="list-style-type: none"> Mixing of the quantitative and qualitative results and interpretation 	<ul style="list-style-type: none"> Meta-inferences and discussion Quality assurance Implications for theory, research, and practice

Figure 2. Mixed methods procedures overview.

CHAPTER FOUR: STUDY 1

Mediating Internalized Distress: The Role of Familial Influences and Social and Emotional Competencies on Youth with LD

To investigate the association between LD and mental health problems secondary data analysis was conducting using Canadian National Longitudinal Survey of Children and Youth (NLSCY; Statistics Canada, 2008). The primary aim of Study 1 was to use a Canadian sample of youth with LD to identify familial characteristics and behaviours that mediated the effects of internalized distress among youth with LD. Derived from prior research and situated in the relational development systems framework, the hypotheses of Study 1 were:

(1) Parental depression, parental monitoring behaviours, family functioning, and youth social and emotional competencies will significantly and directly predict internalized distress among youth with LD;

(2) Parental monitoring behaviours, family functioning, and youth social and emotional competencies will significantly mediate the relation between parental depression and internalized distress among youth with LD.

Methods

Secondary Data

Secondary data analysis involves using existing data to answer new research questions (Glass, 1976). The data are often made available for use by researchers other than the original investigators (Pienta, McFarland O'Rourke, & Franks, 2011). This approach may involve original or novel theoretical frameworks and statistical methods (Smith, 2008). Secondary analysis has been described as a "well-established pedigree" (Smith, 2008, p. 325) and is expanding in disciplines that have not traditionally used such data, including psychology, family

studies, and other health disciplines (Pienta et al., 2011). While gaining familiarity with an existing data set poses unique challenges (e.g., insufficient information about data collection), the use of secondary data allows the use of a broader set of variables and for a larger, more representative sample than could be possible with primary data collection (Frankfort-Nachmias & Nachmias, 1996; Pienta et al., 2011).

Frankfort-Nachmias and Nachmias (1996) discussed three types of benefits of using secondary data: (1) conceptual-substantive, (2) methodological, and (3) economic. Firstly, in considering the NLSCY, there are few Canadian data available on the topic of youth LD and mental health problems. From this conceptual-substantive perspective, the NLSCY data provides greater scope and depth compared to conducting a single primary data research project. Secondly, methodologically, using the NLSCY data provides a unique opportunity to replicate existing research findings on the association between LD and mental health problems among youth. While most studies have demonstrated this relation, few studies used representative, large scale data, and there remain inconsistencies in the literature (e.g., Heath & Ross, 2000). Using the NLSCY allows the use of a wide variety of variables to gain potentially new insights with factors related to familial influences among the LD population. With the large Canadian sample size, the findings lead to the possibility of increased generalizations. Additionally, secondary data analyses may be used in triangulation to increase the validity (or trustworthiness) of primary data findings (Frankfort-Nachmias and Nachmias, 1996; Smith, 2008). Thirdly, economically, the use of NLSCY data available from Statistics Canada, upon formal written request with supporting documents, involves no cost. Moreover, secondary data analysis is a non-obtrusive research method (Frankfort-Nachmias and Nachmias, 1996). The ethical advantage of not

collecting additional data or re-collecting data from youth and their families is a social benefit of secondary data analysis (Smith, 2008).

The NLSCY was selected as the secondary data source because this Canadian survey contains data pertaining to youth social, emotional, and academic development and is the only large scale survey to include population data relevant to the empirical examination of LD, mental health problems, and family factors. Moreover, utilizing a survey that employs probability sampling (each member of the Canadian population has a chance of inclusion in the survey) allows for generalizations from the findings to be applied to the population as a whole—a gold standard design in quantitative methods

NLSCY. This study utilized existing cross-sectional data from the NLSCY, which was a long-term survey of Canadian children that followed their development from birth to early adulthood (Statistics Canada, 2008). The survey began in 1994 and included eight cycles until 2008. NLSCY was a probability survey designed to collect information about cognitive, emotional, physical, and environmental factors influencing children's development (Statistics Canada, 2008). Overall, the survey covered a comprehensive range of topics, including the health of children, their physical development, learning and behaviours, and their social environment (family, friends, schools, and communities). The objectives of the NLSCY were: (1) to determine the prevalence of various risk and protective factors for children and youth; (2) to understand how these factors, as well as life events, influence children's development; (3) to collect information on a wide variety of topics including social, biological, and economic issues; (4) to collect information about the environment in which the child is growing up; (5) and to make information available for developing policies and programs that will help children and

youth (Statistics Canada, 2008, p.13). Based on the NLSCY objectives and the data collected, it was a particularly appropriate data source for the present research.

NLSCY survey procedures. Children in the NLSCY were selected from households sampled by Canada's Labour Force Survey. Collection of the first cycle of the NLSCY began with one large cohort of children aged 11 years and younger who lived in all provinces in Canada. The sample of children selected at Cycle 1 (in 1994) was designed to produce reliable provincial estimates. In Cycle 1 22,831 children were sampled in the NLSCY with 86.5% response rate. By Cycle 8 (in 2008), 15,056 children responded when surveyed and the longitudinal response rate for children in the original cohort was 52.7%. By Cycle 8 these children were between 14 and 25 years old. This "original cohort . . . is purely longitudinal: it is not topped up to reflect changes that occur in the population over time as a result of immigration" (Statistics Canada, 2008, p. 17). As a result, the population in Cycle 8 is large enough to make statistical generalizations but does not accurately characterize the demographics of the current Canadian population.

NLSCY survey data were collected by trained Statistics Canada interviewers (Statistics Canada, 2008). Data for Cycle 8 combined computer-assisted interviewing and the use of paper questionnaires. Computer-assisted interviewing entailed computer-assisted personal interviewing and computer-assisted telephone interviewing. These interviews involved the interviewer reading the questions on a computer screen and entering the respondent's answers in the computer either in person or by telephone. The use of computer-assisted interviewing allows for "complex flows and edits to be built into the questionnaire" (Statistics Canada, 2008, p. 33) which helps ensure data quality management. Self-report questionnaires were administered during interviews, and the respondents were asked to complete these themselves. To ensure confidentiality, the

respondent placed the completed questionnaire in an envelope, sealed the envelope and gave it to the interviewer (Statistics Canada, 2008).

Accessing NLSCY data. To obtain access to NLSCY through the University of Victoria Research Data Centre (RDC) a formal application of the proposed research was submitted to Statistics Canada. The proposal was evaluated and approved by a Statistics Canada Subject Matter Expert. A University of Victoria Human Research Ethics Board Application for approval for use of anonymized data from another institution was also submitted and approved (ethics protocol number 15-191). To access the RDC a number of security screening procedures were followed and security requirements were met for all the researchers involved in the study. The researchers signed a Microdata Research Contract with Statistics Canada and security clearance was confirmed. All the analyses were completed in the RDC and results were vetted by a RDC statistical analyst to meet confidentiality requirements before being released to the researchers to access and use outside of the RDC. All released data was required to be weighted, reflecting the complex sampling methodology of the NLSCY and insuring anonymity of participants.

Youth and Parent Participants

The sample weighted to reflect population parameters suggests approximately 5.9% of 14- and 15-year-olds ($n = 56,907^1$) have had a health professional diagnose a LD as reported by the parent respondent. To further investigate if males or females differ on whether or not they have LD diagnosis, a Phi statistical test was conducted and results indicated 7% of males compared to 4.8% of females had LD diagnosis. The association is moderately correlated and statistically significant ($\phi=.300$, $df=1$, $p<.0005$). Surveyed at Cycle 8 (2008) the youth with a

¹ This sample represents weighting adjustment of the parents reporting their 14- or 15-year-old had a health professional diagnose of a learning disorder. Users of the RDC are not permitted to report unweighted data. The publically available NLSCY user's guide reports that 15,056 children responded in 2008 (at Cycle 8), this is the only unweighted report.

reported diagnosis of LD in the present study were aged between 14 and 15 years (41% female and 59% male, mean age of 14.47, $SD = .499$). Approximately 94% of these youth with LD were in a special education program. In this sample of youth with LD, all (100%) were born in Canada, which reflected the lack of immigrant top-up at this cycle of the survey. Children primarily lived in urban areas of over 100,000 (53%) and 23% of children resided in rural areas (<30,000 population). Youth participants reported on their parents' parenting behaviours as well as self-reported on their personal social and emotional factors and their symptoms of internalized distress.

This study also included parent participants. The parent most knowledgeable (PMK) had a mean age of 43.39 ($SD = 5.343$); and approximately 91% of PMKs were mothers and 9% were fathers who completed the parent component measures of the NLSCY. Over half (57%) of the parents and 45% of spouses held certification or degree from a post-secondary institution (including trades, college, and university) and 83% of parents were currently employed. Most youth (76.5%) lived in a two-parent home with a mean household income of \$86,959 ($SD = \$58,128$). The PMK parent completed questionnaires on parenting, family relationships, family communication and self-report measures on their personal depressive symptoms. Inclusion criteria required the youth and their parent to have completed the selected measures described below, no other exclusion criteria were used. Applying these criteria reflected a *weighted* sample of $n = 24,915$ youth with a mean age of 14.47 years old and their parent respondent. Due to the decrease in sample size, an analysis of missing data was conducted and is described after the measures section.

Measures

From the available parent and youth data in NLSCY Cycle 8, several individual and family measures were used. The sample of youth aged 14- and 15-years-old were selected because anxiety and depression are prevalent in adolescence with estimates of up to 30% of youth eligible for a diagnosable anxiety disorder (Kessler et al., 2012; Merikangas et al., 2010, Wilson et al., 2009) and because of the increasing levels of stress in secondary school at this age (e.g., Feurer & Andrews, 2009; Mychailyszyn, Mendez, & Kendall, 2010). This age sample also included parent respondents, while older youth samples did not (e.g., 16 years old and over did not have a parent component in Cycle 8). NLSCY variables have been subjected to extensive reliability and validity assessment and judged to be acceptable to respondents for over nearly two decades of data collection (for details see publicly available Statistics Canada documentation 1994-2008). See Appendix A for the complete list of items on each of the selected scales.

Youth-reported scales.

Behaviour scale. Since the current research is focused on the co-occurrence of LD and internalizing problems, the emotional disorder – anxiety subscale data, assessing symptoms of internalized distress, was used. This subscale was used because the factors assessed on this measure represent anxious and depressive symptoms. Although individuals may not meet diagnostic criteria for an emotional disorder, “subthreshold internalizing symptoms” have been identified as developmental risk factors (Weeks et al., 2014, p. 609). The scale was administered to youth in a self-report paper questionnaire and included seven questions.

Emotional Quotient (4 factor) scale. The emotional quotient scale was selected because the factors assessed by this measure are closely related to social and emotional competencies as described in the theoretical framework social ecological resilience discussion. Developed by Bar-

On and Parker (2000) the Emotional Quotient Inventory Youth Version (EQ-i; YV) measures “emotional intelligence.” The EQ-i:YV is a self-report measure of emotion and social abilities that provides an estimate of emotional-social intelligence (Bar-On, 2006). The Bar-On model (2000) of emotional intelligence describes emotional and social abilities and skills that impact intelligent behaviour. The measure is comprised of four major dimensions: intrapersonal (e.g., self-regard, self-awareness, assertiveness, independence); interpersonal (e.g., empathy, social responsibility, relationships); stress management (e.g., comprising stress tolerance and impulse control); and adaptability (e.g., problem solving and flexibility). The shortened version of the EQ-i; YV included 12 questions addressing respondent’s social, personal, and emotional abilities (as opposed to their behaviours). This scale was administered to youth in a self-report paper questionnaire.

Parents and Me scale. This scale was originally used in the Western Australia Child Health survey developed by Lempers, Clark-Lempers, and Simmons (1989) and complements the NLSCY parent-reported family functioning survey by gathering information from children regarding their perceptions of their relationships with parents. This scale was administered to youth in a self-report paper questionnaire and included 18 questions measuring subscales of parental nurturance, rejection, and monitoring. For the purposes of the present study the parental monitoring subscale score was used because a strong basis of theoretical and empirical literature has linked this variable to child outcomes (Jacobson & Crocket, 2000) and is amenable to intervention. For example, Egeland et al., (1993) found youth reports of parental monitoring and support to predict to positive outcomes under high risk situations.

Parent-reported scales.

Depression scale. A shorter version of the Centre of Epidemiological Studies Depression scale (CES-D scale; Radloff, 1977) was administered to the parent most knowledgeable as part of the NLSCY Parent Questionnaire. Reduced to 12 questions, the aim of the scale is to gather information about the mental health of respondents, with particular emphasis on severity of symptoms associated with depression during the previous week. The depression scale was selected because previous research has demonstrated parental depression can negatively impact child development and parenting behaviours (Beardslee et al., 2011; Letourneau et al., 2013). Also, Bonifacci et al.'s (2016) findings suggest parents of children with LD experience higher parental distress. However, being the parent of a child with LD is not necessarily a significant risk factor for a mental health disorder (Bonifacci, Montuschi, Lami, & Snowling, 2014).

Family functioning scale. Developed by researchers at McMaster University (Statistics Canada, 2008), this scale measures problem-solving, communications, roles, affect involvement, affective responsiveness and behaviour control related to family functioning. This scale was administered to the PMK as part of the NLSCY Parent Questionnaire. The scale includes 12 questions and aims to provide a global assessment of family functioning and an indication of the quality of the relationships between parents and their child. The family functioning scale was selected because the relationship between children and their parents/caregivers has a considerable effect on children. Cohesive family relationships and positive parenting may protect against the negative impact of parental depression on children's health and development (Letourneau et al., 2013). Al-Yagon's (2012) study of high school students with LD found less secure relationships with mothers (but not with fathers) compared to non-LD students. Having a child with LD has a significant impact on the parental role (Bonifacci et al., 2016).

Table 1 provides an overview of the constructs comprising the central hypotheses of the study, the measures selected to assess each of these constructs, and the descriptive statistics for each of these measures obtained from their use in the data set. The correlations of the variables are shown in Table 2.

Table 1

Summary of Selected Measures

<i>Construct</i>	<i>Measure</i>	<i>Abbreviation</i>	<i>Number of Questions</i>	<i>Possible Range</i>	<i>Mean</i>	<i>SD</i>	<i>α</i>
Parental Depression	CES-D, Short Version, Parent Reported	Depression	12	0 to 36	4.00	4.77	.85
Family Functioning	NLCSY, Family Functioning, Parent Reported	Family	12	0 to 36	26.28	4.42	.92
Parenting Behaviour	NLSCY Parents and Me, Monitoring Subscale, Youth Reported	Monitoring	5	0 to 25	14.34	3.18	.41
Social-Emotional Competencies	Emotional Quotient (4 factor), Youth Reported	Social-Emotional	12	0 to 36	21.94	5.06	.70
Internalized Distress	NLSCY Behaviour Scale, Emotional Disorder-Anxiety Subscale, Youth Reported	Distress	7	0 to 21	2.64	2.62	.81

Table 2

Correlations Among the Selected Measures

	<i>Depression</i>	<i>Family</i>	<i>Monitoring</i>	<i>Social- Emotional</i>	<i>Distress</i>
Depression	-	-.197*	.147*	.156*	-.013*
Family		-	.098*	-.014*	-.015*
Monitoring			-	.318*	-.337*
Social- Emotional				-	-.564*
Distress					-

* $p=.000$

Analysis of Missing Data

Due to the longitudinal nature of NLSCY, several strategies for handling missing data were employed. Myers (2000) defines *missing at random* (MAR) as the process in which the probability of dropout is independent of both observed measurements and unobserved measurements. This assumption was assessed by comparing the distribution of missing and not missing data of the LD group on each of the selected measures using Levene's test of equality of variances statistic. There was no significant difference between missing and not missing results ($p>0.05$) suggesting there is no apparent evidence the not missing LD group is only representative of that particular group. As a result, "missingness" was considered MAR so a complete-case analysis method was applied. Complete-case analysis method uses only those participants with complete data (Myers, 2000). For this study, complete-case analysis involved only using the participants who completed each of the selected measures. However, those participants who completed all the selected measures may still have missing data related to the sample descriptive statistics.

Overview of Data Analyses

Analyses were conducted using SPSS v23. Cross tabs and correlations were calculated to investigate the association between learning disability and emotional disorder diagnosis. To explore the central hypotheses a path analysis using regression models was generated and then Sobel tests for mediation (Baron & Kenny, 1986; Kline, 2011; Sobel, 1982) were performed. Developed by Sewell Wright, path analysis is a method to determine if multivariate data fits well with a particular causal model (Wuensch, 2015). Path analysis is most appropriate for the explanation of nonexperimental data (Keith, 2015) and Sobel tests were used to determine the significance of the indirect effects (Jose, 2013; Sobel, 1982).

The path analysis was developed using the four regression models to determine the direct effect of each variable on Distress and Sobel tests were used to test the significance of the mediating effects. In mediation models, the total effect is the sum of direct effect and indirect effects. The regression coefficients reported in the model are all standardized. The R^2 is used to calculate the paths disturbances on youth Distress. The NLSCY provides population weights for the selected measures used in this study, and these were used in all analyses. Wuensch (2015) suggests that when working with large sample sizes even trivially small coefficients may be significant hence including a “meaningfulness” criterion and a minimum absolute value for retention is recommended. For the purposes of this study, the minimum absolute value of .10 was selected for the meaningfulness criterion as this also represents a small effect (Cohen, 1988).

Path analyses. The first step in path analysis was to develop the model based on theory, previous research, time precedence, and logic (Keith, 2015). Figure 3 represents the recursive model of how the variables are related to one another. A *recursive* model signals that paths (i.e., suggested causes) go in one direction and the term *cause*, in path modelling, implies weak causal

ordering (Keith, 2015). According to Keith (2015), weak causal ordering means that the path from family functioning to internalized distress, for example, does not assert that family functioning directly causes internalized distress but that if family functioning and internalized distress are causally related then the direction of causality is in the direction of the arrows. The *a priori* model is based on weak causal ordering (Keith, 2015) guided by ecological developmental theory and existing research.

Ecological approaches, specifically resilience models, consistently include variables reflecting social and emotional factors, while relational developmental systems approaches to research on child and youth mental health justify the exploration of the influences of parents' mental health and parenting practices on internalized distress in youth. Time precedence and previous research justify the paths from Parental Depression to each subsequent variable in the model. There is ample evidence that parent's symptoms of depression may affect many aspects of the family including parenting behaviours and family relationships (from Parental Monitoring to Family Functioning). The relationship between children and their caregivers, and their caregivers' parenting practices (Family Functioning, Parental Monitoring) may in turn affect the child's social and emotional competencies, including the children's level of independence, empathy, stress tolerance, assertiveness, and adaptability (Social-Emotional).

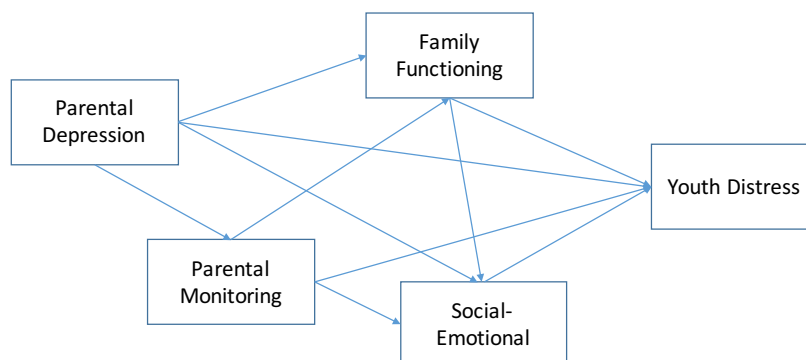


Figure 3. Path model of selected mediating factors for predicting distress for youth with LD.

Statistical assumptions. Pedhazur (1997) suggests that the assumptions underlying path analysis include: (a) the relations among variables in the model are linear, additive, and causal; (b) the residuals are not correlated among themselves, nor are they correlated with the variables in the system; (c) there is a one-way causal flow in the system; and, (d) the variables are measured on an interval scale.

Analysis procedure. The path model in Figure 3 was estimated using simultaneous multiple regression analysis. Assumptions were checked and met. To estimate the direct paths from all predictors in the model to Distress using multiple regression, Distress was regressed simultaneously on Depression, Monitoring, Family Functioning, and Social-Emotional. The multiple regression equation is as follows:

$$Y(\text{distress}) = \beta_1(\text{depression}) + \beta_2(\text{monitoring}) + \beta_3(\text{family}) + \beta_4(\text{social-emotional}) + \text{error}_Y$$

The values from the regression are the estimates of the standardized (β) path coefficients from each variable to Distress. To calculate the indirect effects in the model (i.e., the paths among the predictor variables) each predictor variable, in turn, becomes the outcome variable in a subsequent regression analysis.

In the second regression model, Social-Emotional is regressed on Family Functioning, Monitoring, and Depression reflected in the equation:

$$Y(\text{social-emotional}) = \beta_1(\text{depression}) + \beta_2(\text{monitoring}) + \beta_3(\text{family}) + \text{error}_Y$$

In the third regression model, the paths to Family Functioning are estimated from the regression of Family Functioning on Monitoring and Depression reflected in the equation:

$$Y(\text{family}) = \beta_1(\text{depression}) + \beta_2(\text{monitoring}) + \text{error}_Y$$

Lastly, in the fourth regression model the path from Monitoring to Depression is estimated by the regression of Parental Monitoring on Depression reflected in the equation:

$$Y(\text{Monitoring}) = \beta_1(\text{depression}) + \text{error}_Y$$

Results

Secondary data analyses of the NLSCY at cycle 8 (2008) indicated an association between LD and “emotional or psychological difficulty” diagnoses from a health professional ($\phi=.244$, $df=1$, $p=<.0005$) among 14- and 15-year-old youth. This suggests that 36.3% of youth with emotional or psychological difficulties also have been diagnosed with LD. Wilson et al. (2009) stated that “diagnosed by a health professional” is a stronger description than a question asking “does the respondent have LD” and argues that using Statistics Canada survey data represents a unique opportunity to examine national population statistics. This initial investigation into the association between LD and mental health problems was followed by the examination of the central hypotheses of the study to gain insight into the mediating influences specifically related to youth with LD in a family context.

Solved Path Model Demonstrating Mediating Links to Youth Distress

The present path analysis focused on predictors of internalized distress as self-reported by youth with LD. Parents’ symptoms of depression, youths’ ratings of parental monitoring, parents’ ratings of family relationships, and youths’ self-report of social and emotional competencies were configured into the solved path model shown in Figure 4.

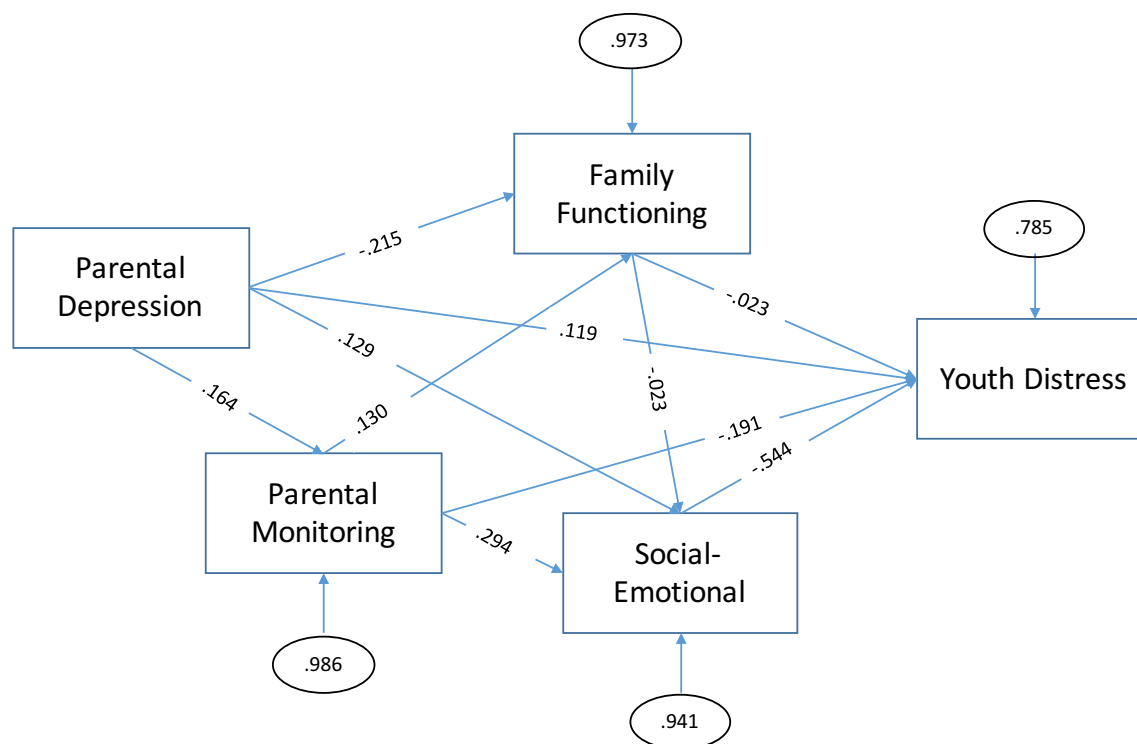


Figure 4. Solved path model with the standardized path coefficients and disturbances.

Path model disturbances. This path model also includes “disturbances,” giving an overall indication of the effectiveness of the model. The R^2 is used to calculate the disturbance on each variable ($\sqrt{1 - R^2}$). Conceptually and statistically, the model does not include all influences on Parental Monitoring, Family Functioning, Social-Emotional, or Youth Distress variables. There is no question there are many other variables that can affect parenting behaviours, family relationships, social and emotional competencies, and internalized distress. There are many influences that are unaccounted for and the model shown rectifies these deficiencies by including disturbances. The circled numbers represent the disturbances from all other influences on the outcome variables other than those shown in the model. Thus, the circled .785 (calculated $\sqrt{1 - .383}$) signifies the unmeasured variables not included in the model and that this model has not accounted for 78.5% of the variance in the Youth Distress variable.

Hypothesis One.

Parental depression, parental monitoring behaviours, family functioning, and youth social and emotional competencies will significantly and directly predict internalized distress among youth with LD. In the first regression analysis summarized in Table 3, Parental Depression, Parental Monitoring, Family Functioning, and Social-Emotional jointly predicted Youth Distress, $F(4, 24915)=3870.801, p=.000$, adjusted $R^2=.383$. In this analysis, Social-Emotional was a statistically significant predictor ($\beta=-.544$, unstandardized regression coefficient $=-.284$ with standard error of $.003, t=-102.911, p=.000$), but Family Functioning was not a meaningful predictor ($\beta=-.023$, unstandardized regression coefficient $=-.013$ with a standard error of $.003, t=-4.431, p=.000$). Parental Monitoring was a significant predictor ($\beta=-.191$, unstandardized regression coefficient $=-.157$ with standard error of $.004, t=-35.981, p=.000$) and Parental Depression was also a significant predictor ($\beta=-.119$, unstandardized regression coefficient $=.066$ with a standard error of $.003, t=22.917, p=.000$).

Table 3

Simultaneous Multiple Regression with Social-Emotional, Family Functioning, Parental Monitoring, and Parental Depression

Variable	Predictor Variable Standardized Beta				F	R ²
	Social-Emotional	Family	Monitoring	Depression		
Distress	-.544*	-.023*	-.191*	.119*	3870.805	.383
Social-Emotional		-.023*	.294*	.129*	1079.046	.115
Family Monitoring			.130*	-.215*	714.761	.054
				.164*	693.956	.027

* $p=.000$

Hypothesis Two.

Parental monitoring behaviours, family functioning, and youth social and emotional competencies will significantly mediate the relation between parental depression and internalized distress among youth with LD. Results from the regression analyses provide information to calculate the *indirect* and *total effects* of Parental Depression, Parental Monitoring, Family Functioning, and Social-Emotional on Youth Distress. One of the benefits of path analysis over simultaneous regression is that it allows for the calculation of *indirect* and *total effects* on the outcome variable in addition to *direct effects* (as detailed in hypothesis one). Table 4 shows the standardized direct, indirect, and total effects for each variable on Youth Distress.

Table 4

Standardized Direct, Indirect, and Total Effects for Each Variable on Youth Distress

Variable	Direct Effect	Indirect Effect	Total Effect
Social-Emotional	-.544	-	-.544
Family	-.023	.013*	-.010
Monitoring	-.191	-.161*	-.352
Depression	.119	-.065*	.054

* $p < .001$ Sobel Test (see Table 5)

The *indirect effects* were calculated for each variable that mediated the relations to Youth Distress. The mediating effects of Family Functioning on Distress ($-.023 \times -.544 = .013$) is captured through multiplying the direct effect of Family Functioning on Social-Emotional ($-.023$) and the direct effect of Social-Emotional on Youth Distress ($-.544$) together. Family Functioning *total effect* is the summed direct effect and indirect effects ($-.023 + .013 = -.010$).

Calculating the indirect and total effects of Parental Monitoring and Parental Depression becomes more complex because the farther back you go in the model the greater the likelihood of more possible indirect effects. The indirect effect of Parental Monitoring on Youth Distress

was captured by the indirect effect through Family Functioning (.130*-.023=-.003), Social-Emotional (.294*.544= -.160), and both Family Functioning and Social-Emotional (.130*-0.023*-.544=.002). These indirect effects were then summed to calculate the *total indirect effect* (-.161) and added to the direct effect (-.191) to calculate the *total effect* (-0.352).

Overall, the model illustrates Social-Emotional had a medium total effect of -.544 on Youth Distress. Family Functioning had almost no indirect effects (.013) or total effects (-.010) on Youth Distress. Parental Monitoring had small indirect effects of -.161 and small total effects of -.352 on Youth Distress. Parental Depression had very small indirect (-.065) and total effects (.054) on Youth Distress.

Significance and size of indirect effects. Baron and Kenny's (1986) causal steps model states when the beta weight for the basic relation decreases when the mediator variable is included in the regression equation then mediation is assumed. Jose (2013) suggests *significant mediation* is obtained when the Sobel value is significant, but the basic relationship is not reduced to zero. Following this advice, the Sobel test was used to determine the significance of the indirect effects (Jose, 2013). Using the unstandardized regression coefficients and the standard errors from the regression outputs the Sobel z-value and then the converted p-value was computed for each variable using an online interactive calculation tool for mediation tests (Preacher & Leonardelli, 2018). Table 5 displays the results with Youth Distress as the outcome variable for each possible mediator in the model.

Table 5

Sobel Test Statistics for Significant Mediation, Youth Distress as Outcome Variable

IV	DV	Mediator	Test Statistic	<i>p</i> value
Family	Distress	Social-emotional	3.711	<.001
Monitoring	Distress	Social-emotional	41.591	<.001
Depression	Distress	Social-emotional	19.031	<.001
Monitoring	Distress	Family	4.235	<.001
Depression	Distress	Family	4.297	<.001
Depression	Distress	Monitoring	22.389	<.001

The *size of indirect effects* of the mediated predictors can be measured in several different ways. The ratio of the indirect effect to the total effect based on the standardized regression coefficients signifies the size of the indirect effect (Jose, 2013). The Parental Monitoring variable was found to have 46% of the total effect mediated. This suggests that the path through Monitoring as the mediating variable accounted for almost half of the basic relation between Parental Depression and Youth Distress. Family Functioning and Parental Depression variables were found to have “inconsistent mediation” due to the opposite signs of the direct and indirect effects; and this results in no meaningful calculation of the size of indirect effects. MacKinnon, Fairchild, and Fritz (2007) state inconsistent mediation is most common in multiple mediator models with mediating effects that have different effects and, while the direct relation may be non-significant, mediation can still exist.

Discussion

This study explored the youth and familial influences on internalized distress among 14- and 15-year-old youth with LD by examining both youth and parent reports of family relationship and parenting behaviour variables in studying the associations with internalized distress among youth with LD. Using secondary data from the NLSCY, factors examined included: (1) social and emotional competencies linked to internalized distress; (2) family

functioning in links between internalized distress and social and emotional competencies; (3) parental monitoring in links between internalized distress and social and emotional competencies and family functioning and; (4) parental depression in links between internalized distress and social and emotional competencies, family functioning, and parental monitoring.

Youth Social and Emotional Competencies

Consistent with the hypothesis one of this study, ratings of social and emotional competencies, using the Youth Emotional Quotient measure, were found to predict symptoms of internalized distress among youth with LD. The more adolescents perceived themselves to have well-developed emotional and social capacities, the fewer symptoms of internalized distress they tended to report. The Bar-On model (Bar-On, 2006) provided the theoretical basis for this measure (Statistics Canada, 2008). Social and emotional abilities were collectively assessed on four dimensions (intrapersonal, interpersonal, stress management, and adaptability). Based on this model, “emotional intelligence” suggests successful handling of personal, social, and environmental change by adapting to the current conditions, solving problems, and making decisions (Bar-On, 2006). Existing adolescent-based research has demonstrated the associations between emotional intelligence and internalizing problems (Davis & Humphrey, 2012; Downey, Johnson, Hansen, Birney & Stough, 2010). However, few existing studies using an adolescent sample have used the EQ-i (Bar-On & Parker, 2000) to examine the relation between emotional intelligence and mental health problems. An exception is a study by Zavala and Lopez (2012), they found adolescents’ ratings on the intrapersonal subscale of the EQ-i significantly predicted symptoms of depression, yet were unrelated to symptoms anxiety for adolescents. Reiff, Hatzes, Bramel, and Gibbon (2001) examined emotional intelligence using the EQ-i with a group of 128 college students and found significant difference on the stress management and adaptability

subscales between LD and without LD students. Numerous other emotional intelligence measurements are also utilized in the literature (see Resurreccion, Salguero, & Ruiz-Aranda, 2014 for overview). Hen and Goroshit (2014) used the Schutte Self Report Emotional Intelligence Test (Schutte et al., 1998) and found second-year university students with LD to have less developed emotional intelligence and lower academic self-efficacy which was associated with higher academic procrastination, compared to students without LD.

Results from Resurreccion et al.'s (2014) systematic review focused on emotional intelligence and various psychological maladjustment variables in adolescence; they determined that well developed emotional intelligence was associated with lower psychological maladjustment. Specifically, adolescents with higher total scores on emotional intelligence measures demonstrated better emotional adjustment, less perceived stress, and fewer symptoms of depression and anxiety (Resurreccion et al., 2014). Currently, few studies have explored the emotional intelligence construct among adolescents with LD.

Family Functioning

In this study, the measure of family functioning did not capture the influence of family relationships on youth internalized distress. The NLSCY Family Functioning scale was intended to provide a global assessment of family functioning and an indication of the quality of the family relationships (parent-child and also between parent and spouse). From the parent's perspective, family behaviours such as problem-solving, communication, and affect involvement were investigated. The results were inconsistent; contrary to the hypotheses that Family Functioning would meaningfully mediate Youth Distress, Family Functioning had almost no direct or mediating effects on symptoms of internalized distress among youth with LD. Family Functioning was a significant mediator as tested by Sobel statistic, yet the size of the mediating

effect was not captured in the current analysis due to the opposite signs of the beta values (inconsistent mediation). Similarly, Van Loon et al. (2014) found no direct relations between family factors, such as parent-child interaction and family environment measures, and internalizing problems among adolescents in the general population who had a parent with a mental health diagnosis.

An increased understanding of family factors such as family relationships and communication between children and their parents is a worthy research endeavour that may further explain the links between parental depression and youth mental health. Additional scales and interview methods may capture more accurate and specific information about the influence of family behaviours such as problem solving, communication, emotional involvement and family relationships on youth internalized distress. Pedersen and Revenson's (2005) ecological review including family functioning and adolescent well-being found differences among the childrens', mothers', and fathers' reports of family functioning. This finding suggests that each individual views the family environment differently depending on age, gender, and role in the family. However, Burk and Laursen (2010) suggest that studies relying on the same rater for each measure have stronger effects than studies, such as the current study, that use different raters for these assessments. In this study, the Family Functioning measure was completed by a parents and the outcome measure of youth internalized distress was completed by the youth themselves. Bögels and Brechman-Toussaint (2006) suggest only a few studies have been conducted on the role of the dimensions of family functioning in the maintenance of child mental health problems; these authors maintain this is due to confusion on theoretical conceptions in family theory and the lack of a well-defined model which articulates the types of family functioning related to mental health problems.

While it is difficult to determine why this result from the present varies from some previous studies, some researchers suggest social desirability influences participants' responses which, in turn, leads to inaccurate interpretations of test scores and reduced validity (e.g., Edwards, 1990; Merydith, Prout, & Blaha, 2003). A pervasive response bias is most likely to occur in responses to socially sensitive questions (Edwards, 1990). In the present study, the Family Functioning data was collected either through an in-person interview format by field visit or through telephone questionnaire (Statistics Canada, 2008). Response bias may have influenced the Family Functioning rating as it required the parent to report on the quality of the relationship with their spouse, which many could feel includes socially sensitive questions. Overall, the study may entail a selection bias of high functioning families who were willing to engage in this relatively involved research and additionally offer socially desirable responses.

Parental Monitoring

Positive parenting, specifically monitoring behaviours, were measured in the current study from youths' perspectives. The youth-reported Parental Monitoring measure complemented the parent-reported Family Functioning measure by gathering information from youth about their perceptions of parenting behaviours. Consistent with previous research (e.g., Elgar, Mills, McGrath, Waschbusch, & Brownridge, 2007; Jacobson & Crocket, 2000), in the current study, the more youth perceived their parent to have knowledge and interest in their activities, the fewer symptoms of internalized distress they tended to report. Parental monitoring is often operationalized as parents' knowledge of youths' daily activities (Crouter & Head, 2002). Stattin and Kerr (2000) argue the monitoring construct should include not only parent effort to find out what children are doing outside the home, but also the child's unprompted willingness to communicate information with their parent(s). Importantly, a focus on youths'

point of view is required in assessing parents' knowledge of youths' activities (Stattin & Kerr, 2000).

Jacobson and Crocket (2000) found parental monitoring to be related to positive adjustment and relationships with parents. Many studies over the past several decades have found parental monitoring to be related to fewer youth behaviours of concerns, such as drug use and delinquency (e.g., see Crouter and Head [2001] for review). When parents are involved in their children's education and monitor activities, Spera (2005) posits these parenting practices facilitate children's academic achievement and educational attainment. Also using NLSCY data, but across two earlier survey cycles, Elgar et al., (2007) found monitoring, rejection, and nurturance parenting behaviours mediated maladjustment in 10- and 15-year-olds. Parental monitoring behaviours often start to decline in adolescence as parents typically recognize an increased need for adolescents' autonomy. More research is needed to understand the balance of monitoring behaviours required in adolescence, for youth with co-occurring LD and mental health problems, as the findings from the present suggest the monitoring construct remains of utmost importance in middle adolescence. Furthermore, based on the empirical literature on parental monitoring more generally, there is a shift in research questions to further explore the elements of the parent-child relationship that lead to children's disclosure of information (Kerr, Stattin, & Burk, 2010). Perhaps it is this element of monitoring that is increasingly necessary during adolescence while the acts of monitoring specific activities may decrease as children age. Based on the findings obtained using the current statistical model, youth who reported higher scores on the Parental Monitoring measure in turn had higher total Social-Emotional scores, which predicted lower total scores on Youth Distress. This suggests youth perceiving their parents to know about and take interest in their day-to-day activities is associated with increased

personal perceptions of intrapersonal and interpersonal abilities; this, in turn, results in a tendency to report fewer symptoms of anxiety and depression among youth with LD.

Parental Depression

Ratings of parents' symptoms of depression were found to be a significant, small predictor of self-reported symptoms of internalized distress among youth with LD. In the general population, the relation between parental internalizing disorders and their children's internalizing symptoms has been well documented (Beardslee et al., 2011; Van Loon et al., 2014). In the current study, parents self-reported clinical-type symptoms of depression during the past week (Statistics Canada, 2008). The questionnaire does not represent the full range of depressive symptoms. Moreover, these questionnaire endorsements do not reflect a clinical diagnosis and may not, in fact, be accurate representations of these parents' experiences of depression. The two most frequently used criteria for defining depression in parenting studies include interview-based clinical diagnosis and elevated scores on self-report measures (Lovejoy, Graczyk, O'Hare, & Neuman, 2000). The two different approaches affect the findings related to depression and the quality of the parent-child relationship (Lovejoy et al., 2000). For example, elevated scores may reflect distress and a wide variety of affective symptoms (Lovejoy et al., 2000). Participants may self-report high scores on self-report depression measures, yet not meet criteria for a Depressive Disorder. Bonifacci et al. (2016) found parents of children with specific learning disorders to show higher levels of parental distress. Wingrove and Rickwood (2017) identified that parents of young people (aged 12 to 25 years old) with "mental ill-health" (clinical sample) reported higher distress levels compared to norms drawn from community samples.

Existing research has demonstrated the influence of mothers with depression on their children (e.g., Lovejoy et al.'s [2000] meta-analytic review). Letourneau et al.'s (2013)

longitudinal study found early maternal depression was related to anxiety among 10- to 11-year-olds. While the mechanisms through which maternal depression affects children are not fully understood, parenting behaviours are important pathways to explore (Turney, 2011). In the current study, the parent's symptoms of depression were negatively linked to parental monitoring behaviours and family functioning, which in turn, mediated youths' perceptions of their social and emotional competencies and resulted in fewer symptoms internalized distress among youth with LD. Elgar et al.'s (2007) separate analyses of mothers and fathers of 10- to 15-year-olds found parents' symptoms of depression were associated with fewer nurturing and monitoring behaviours and more rejection behaviours, particular for fathers. Also in younger children, Turney (2011) established some evidence that socioeconomic resources, family structure, and parenting stress were mechanisms through which maternal depression was linked to neglect, psychological aggression, physical assault, and engagement parenting behaviours.

Wilson and Durbin's (2010) meta-analysis found paternal depression had a significant yet small effect on parenting. Specific parenting behaviours assessed in the meta-analysis included a lack of positive emotions, warmth, sensitivity, and responsiveness, as well as increased negative emotions, hostility, intrusiveness, and disengagement. Notably, Wilson and Durbin highlighted evidence to support the hypothesis that the relation between parental depression and negative parenting behaviours is not limited to mothers who experience depression or depressive symptoms. Bonifacci et al. (2016) found no differences between mothers and fathers in parenting distress and parenting styles in the parents of children with specific learning disorders. Van Loon et al.'s (2014) study demonstrated parents' mental health disorders were linked to poor monitoring and less support for adolescents aged 11- to 16-years-old. The current study is one of

the first to suggest that parents' depressive symptoms are a small predictor of internalizing problems among adolescents with LD.

Chapter Summary

Findings from the present research suggests that almost 6% of 14- to 15-year-olds in Canada have been diagnosed with LD by a health professional. Moreover, the association between parent-reported youth LD diagnosis and parent-reported youth emotional or psychological difficulty diagnosis had a small effect size, suggesting 36.3% of youth with an emotional or psychological diagnosis also have an LD diagnosis. The current study highlighted personal and familial influences related to internalized distress among a non-clinical sample of youth with LD. Youth social and emotional competencies and parental monitoring had the largest influence on internalized distress. Findings from this study are consistent with the ecological resilience research on influential factors to development. While this research was not longitudinal, the current findings on youths' adaptability and stress management abilities (social and emotional competencies) and familial influences (such as positive parenting and family relationships) do suggest these are important influences that act as potential buffers related to internalized distress. Findings from the current study were further explored in Study 2 to develop a more detailed understanding of these influences.

CHAPTER FIVE: STUDY 2

In-Depth Case Study of the Experiences of Co-Occurring Learning

Disabilities and Mental Health Problems: Family Explorations.

Using a qualitative approach, the intent of Study 2 was to gain rich, detailed information and insight related to the factors investigated in Study 1. More specifically, the present study aimed to qualitatively explore the influences on self-reported experiences of mental health problems for youth with LD using two family cases studies. Study 1 provided essential information related to specific factors that directly and indirectly influenced internalized distress among youth with LD. Study 1 findings suggested a small association between parent-reported youth LD and emotional disorder diagnoses. Factors such as parental monitoring behaviours, parents' symptoms of depression, and youth social and emotional competencies significantly influenced internalized distress among youth with LD. In order to develop a more detailed understanding of these factors from parental and LD youth perspectives, a qualitative two-case study (Yin, 2014) was developed as the second strand of the overarching MMR explanatory sequential design. This involved an in-depth exploration of the co-occurrence of LD and mental health problems of two adolescents who have a learning disability diagnosis and also reported anxiety. The purpose of Study 2 was twofold: (a) to explore *how youth experience* co-occurring LD and mental health problems and how they explain this phenomenon and the impacts; and (b) to explore *how parents' perspectives* on their adolescents' co-occurring LD and mental health problems and how they explain this phenomenon and its impacts.

Method

The case study method aims to explore real-world phenomenon involving significant contextual conditions (Yin, 2014). The “case” or phenomenon (Yin, 2014) of co-occurring LD

and mental health problems, from a relational developmental systems framework, cannot be understood without considering the family and educational context. Considering the family perspective and subjective youth experiences was needed to gain an in-depth understanding of the phenomenon under investigation. This present case study was characteristic of Yin's (2014) case features, incorporating multiple sources of data including interviews and educational and psychological documents. Moreover, case propositions (Baxter & Jack, 2008; Yin, 2014) were developed from a relational developmental systems framework and Study 1 findings, and then used to guide data collection and the second phase of thematic analysis in Study 2.

Study 2 Design

Seven propositions were developed, using both theory and the quantitative findings from Study 1; each central finding from Study 1 became a case study proposition for Study 2. For example, in Study 1, well-developed emotional and social capacities were linked to fewer symptoms of internalized distress; hence youth social and emotional factors were directly explored in the case study interviews. The propositions were points of exploration to assess and extend the general findings from Study 1. Interview questions were generated to address each proposition; Table 6 shows the case propositions and corresponding interview questions). Different questions were generated for youth and parent perspectives. Yin's (2014) proposition steps were modified to suit the smaller number of cases. The two cases were used as sources of explanation for each proposition, not for comparison.

Table 6

Case Propositions Explored in Youth and Parent Interviews

Case Propositions	Interview Prompt
1. LD and mental health problems co-occur.	What do you notice about having a LD?* How does LD impact you at school?* How do you explain how LD and anxiety/stress go together?* What do you notice about your child having a LD?^ How does LD and anxiety go together for your child?^
2. Youth personal (social-emotional) factors influence youth anxiety and depression.	Tell me about your personal qualities or skills that help you manage stress.*
3. Contextual factors influence youth mental health	What helps stress and what makes it worse?*
4. Family relationships influences youth mental health	Tell me about your relationship with your parents.* Tell me about how your family functions together.^
5. Parenting behaviours influence youth anxiety and depression.	What do your parents do that you find most helpful.* (prompt parental monitoring)
6. Parents of children with LD experience increased distress.	How does your child having LD affect you personally?^
7. Parent symptoms of depression influence their children's mental health.	Have you experienced symptoms of depression in the past or currently? ^ Do you see this related to your child's experiences of anxiety?^

**Youth interview prompts ^ Parent interview prompts*

Participants. The two cases were Emily (13.5 years old) and Mike (14 years old) and their respective parents. The cases were not selected from the large sample in Study 1, because the NLSCY final phase was conducted in 2008, and Statistic Canada confidentiality measures protects the identity of participants. Rather, the participants were sampled in a “purposefully, theory-based” manner, which Onwuegbuzie and Collins (2007) define in MMR as the selection

of cases based on specific characteristics because inclusion provides compelling insight about the research phenomenon. Hence, youth at the end of middle school were selected, because this age is similar to the participants' ages in Study 1 and because of the increasing academic demands, the resultant increased distress levels experienced in school at this age (Feurer & Andrews, 2009), and the heightened developmental patterns of internalizing problems. Consistent with prior research using qualitative methodology with students with LD (Wiener & Daniels, 2015), potential youth participants were excluded if they had a previous diagnosis of intellectual disability, psychotic disorder, autism spectrum disorder, or if they did not attend school. Inclusion criteria for the current study required the youth participant to have a professional diagnosis of Specific Learning Disorder and to report symptoms of internalized distress, such as symptoms of anxiety. Both youth were seeing counsellors in the community to help manage anxiety. The parent was defined as a primary caregiver for the youth.

Several professionals on Vancouver Island, BC who were known to the researcher agreed to recruit participants. These educational and counselling professionals were provided with a recruitment poster (See Appendix B) and were asked to voluntarily discuss the research opportunity with suitable clients and parents. The researcher's email address was provided along with the consent form (See Appendix C) to potential participants. There was only a small number of potential participants due to the selection criteria and the sensitive nature of their difficulties. Those who were interested contacted the researcher directly. Parents confirmed the participation criteria and were informed of the purpose of the study and what would be asked of both their children and themselves in the interviews. In-person interviews were scheduled, either at their homes, at the university, or over the telephone (with a parent).

Procedures. The primary data collection method was in-depth interviews. Before the interviews, the participants were informed that the interviewer would like to hear “their stories about their experiences with LD and mental health” and that together a family story would be drafted for their approval. Participants were told they could pre-write any information on the topic or bring in any mementos or artifacts to help them tell their stories (e.g., a picture or a specific report card). The participants were sent the consent forms and interview questions ahead of time. Three interviews were in person and one was over the telephone. In one of the cases, the interviews took place at the family’s home; first, both parents were interviewed together and then their daughter was interviewed. In the second case, the youth interview took place at the university, followed by the parent interview with the mother over the phone a few days later.

Interviews. The interview format followed the structure of the pre-determined interview questions in a flexible and conversational manner. Youth were prompted to describe the impact of learning and emotional challenges in their daily lives as well as supportive influences. Both parents and youth were prompted to comment on the relation between LD and mental health. Fine et al. (2003) suggest that youth are less likely to idealize their experiences and are more likely aware of the ways in which diverse parts of their lives are connected; the interview process was designed to highlight these connections. Parents were asked to describe their perceptions of the daily experience related to LD and internalized distress in their household and for their child; they were also asked to describe the impact of their child’s experiences on their own personal mental health (e.g., experiences of increased stress etc.). Interviews lasted 30 to 60 minutes and were audio recorded. Immediately following the interviews, impressions were recorded by the researcher. Next each interview was transcribed and a “family story” was drafted. The family

stories were sent to each family for feedback and revisions. One family responded with minor revisions while the other family did not respond with any revision despite multiple invitations.

Data. Transcribing the interviews followed an established transcription team process developed by Marshall, Lawrence, and Roche (2012). First the interview was listened to in its entirety from beginning to end and a holistic summary was generated. The summary provided an overview of the interview's main themes and described the tone of the interview. Next the interview was transcribed word by word. While laughing, pauses, "hmmms," and "ahhhhs" were transcribed, no other nuances (e.g., tone of voice, breathing, fidgeting etc.) were written into the transcripts.

In addition to the transcriptions, other data sources informed the case studies. Using multiple data sources is a hallmark of case study research and also increases data credibility (Baxter & Jack, 2008; Yin, 2014). Youth and parent(s) supplied available psychoeducational reports and the most recent Individual Education Plans. The transcripts, the notes made directly after the interview, and the participants' documents were all sources of data used to develop the family stories and to identify case proposition themes.

Analysis

As an iterative process, the qualitative data analysis process included consideration of interview transcripts and other data, "ghostwriting" two family stories (Phase 1), and identifying participant themes and experiences reflecting the seven case propositions developed from Study 1 results (Phase 2).

Phase 1, Family stories. During the first phase of data analysis, two family stories were developed using a ghostwriting approach. Carl Rhodes (2000) describes ghostwriting as a "practice where a researcher engages with a research participant and, as a result creates a new

text that both tells a story of that participant and implies the involvement of the researcher” (p. 514). The stories were based on the youth interviews, the parent interviews, and the collected documents. Stories or narratives are generally understood as ordered events across time; the structuring and the describing of the events gives meaning to the experiences of the storyteller (Stephens & Breheny, 2013). During the research interviews, participant responses were not always presented in temporal or developmental sequence. The family story, however, became a “re-story,” with experiences structured into a temporal sequence using the participants’ words and language as much as possible (Ollerenshaw & Creswell, 2002). Consistent with Rhodes’ (2000) approach, the storying intent was to emphasize those aspects of their experiences that seem to be the most important to the participants rather than emphasizing the responses to the research questions. An inductive or “data-driven” process, the story creation was not driven by the theoretical propositions – this first phase of data analysis did not have a pre-existing framework. Coffey and Atkinson (1996) suggest that identifying stories in the data enables the researcher to think creatively about the data and the data interpretation. Consistent with a relational development systems framework, the family stories are both situated and context-dependent performance practices that “recontextualize experience” (Peterson & Langellier, 1997, pp. 146–147). This integration of youth and parent experiences into a family story preceded the thematic transcript data analysis. These two cases stories are presented below.

Phase 2, Participant experiences related to propositions. The second phase of data analysis involved a deductive thematic process driven by the theoretical propositions. Specific illustrative participant experiences and statements were identified in the interview data related to the pre-existing case study propositions described above. Braun and Clarke’s (2006) thematic analysis procedure was modified to include the theoretical case propositions. The analysis steps

included (1) transcribing interviews and actively re-reading transcripts; (2) developing initial data codes by labelling the data according to the theoretical propositions; (3) sorting codes within each of the seven theoretical propositions into themes (4) reviewing and revising themes by discarding, collapsing, or separating them; and then, (5) defining and naming the final themes. Research notes and collected documents were also systematically considered, searching for patterns, and confirmations or disconfirmations in relation to the final themes. The final themes represent areas of experience shared by the participants (such as school experiences or motivation) related to each the propositions. Their specific experiences, though, were often quite different and reflected each participant's particular constellation of LD and emotional difficulties.

Findings

Results of Phase 1 Analysis: Family Stories

The family stories are inductive, interpretive narratives created from the case study data. Pseudonymous were selected by the participants themselves for one family story and assigned by the researcher for the other. The stories were drafted using the participant's language and wording as much as possible. For example, in Mike's story, both he and his mother referred to LD as either dyslexia or learning difference, so these terms are used throughout the story. Verbatim participant words and phrases are signified with quotations marks.

Mike's Family Story

Mike is a thoughtful, athletic, and sensitive 14-year-old at the end of middle school. He plays competitive lacrosse and works diligently to get high grades at school. He has an older sister and a supportive, close relationship with his mom and dad. During kindergarten and grade 1, Mike's parents noticed some unexpected academic struggles. In these early years Mike hated

school, he was often sent to the principal or put out in the hall to complete work. Mike's mother Jill comments that Mike was being singled out for struggling to copy notes off the board, a particularly challenging task for someone with dyslexia. "Distracting other children and being a jokester" type antics often resulted in Mike sitting on his own in the hall to complete work that he couldn't finish.

Early in the year during grade 3, Mike's parents decided to switch him out of French Immersion; they found this to be a little better and said that he could communicate more easily during school. Jill is an advocate for her son; she suggests they've been lucky to be able to access community resources and to have the time to put into doing research about what could be best for Mike. She stated "you have to be an advocate for your child. I saw other kids who had the same issues and their parents mostly had their own stress going on or didn't have the resources or didn't know what to do and now their children are in just totally different situations." She talked about writing a letter to the school superintendent to speed up the process of the psychoeducational assessment and educating herself about learning disabilities as well as reading to understand as much about his struggles as possible. Towards the end of grade 3 Mike was assessed in the school system and was identified as both gifted and learning disabled with struggles related to reading and spelling. Both Jill and Mike reflect back to some early years with memorably bad teachers. One teacher in particular assigned a lot of homework and Mike put a lot of pressure on himself to earn the top marks. Mike remembers how in grade 4 his mom was up every night doing homework with him. This was a terrible year with a very strict teacher and he recalls spending "every single night staying up late and crying." His parents, teachers, and Mike all recognize he has very high academic expectations of himself, even at the elementary level, working diligently to earn "four pluses" and going above and beyond on every assignment.

Jill commented on some of the things that did not work well for Mike during elementary school. For instance, he did not get particular accommodations that could have been helpful, such as a reduced amount of spelling words for tests. Mike also “buted heads” with the learning assistance teacher and was often pulled out of physical education class, for his learning assistance support—he was unhappy about that. An arduous time, Jill reflects on the exhausting school days for Mike that often peaked when she’d pick him up from school and Mike would “be throwing his backpack. He held it together during school and then he was just a mess. He’d be done, after trying to self-regulate all day.” It wasn’t uncommon for Jill to get a message during the day from Mike asking to be picked up from school early.

Mike and his family found community agencies for both counselling and educational resources. A private organization that focused on dyslexia was very helpful because many resources and support ideas were provided for parents. By grade 5 it became obvious to Jill that the learning resource at the school wasn’t working well for Mike and they stopped the assistance block. Instead Jill worked with him at home implementing different sensory techniques and learning strategies. By middle school Mike seems to be implementing his own strategies. Mike also had new teachers that seemed to really understand him, one, in particular, Jill says, focused on his strengths, provided him with a lot of reassurance, and noticed how Mike’s confidence increased. Finally, by grade 6, he wasn’t graded on spelling but rather on content and creative process and then for the first time Mike received an A grade in language arts, about which he was thrilled. Also at this time, he started using supplementary audiobooks and was granted more choices related to assignments and readings. Though he had previously disliked reading, Mike loved the audiobooks. By grade 8 Mike had become more independent at managing his homework and working on his assignments. He now feels like his work is his own without the

support of his mom, and he currently does a lot of creative writing and “gets top marks.” The use of technology at school has meant he has less homework, as he is able to complete more work at school.

Now that Mike is more independent with managing his dyslexia and has more confidence at school, Jill comments that the “focus has now shifted to managing his mental health.” Jill states there has been a lengthy history of mental health problems in their family, so “the genetics are stacked against both kids.” She says that poor sleep, combined with Mike’s “perfectionistic personality” can be “a recipe for anxiety.” The combination of giftedness, LD, a tendency to perfectionism, and a family history of mental health issues is a complex situation. Jill discusses her personal history managing depression and anxiety and an extremely supportive family network including her husband, parents, and sister. In their family there is no stigma around mental health problems; in fact, because of their family experiences, Jill states they’ve been “better equipped to help their children.” The children talk and share their personal feelings with their parents, and Jill and her husband are transparent with the children when they too are having a tough time.

Mike states that generally his dyslexia doesn’t affect him that much anymore; using learning strategies with technology has been incredibly effective for him. Now it’s the “other aspects added onto dyslexia that affect [him] more . . . like anxiety.” Friendships and physical size are current concerns. Mike’s personal definition of anxiety is “worries and stressful panicking.” Just “trying to do well and be normal with the rest of kids at school can be anxiety provoking.” Spelling also remains a challenge and can be a major source of frustration. Mike describes a situation with a good friend. He says he would ask his friend for spelling help and how finally the friend got fed up and yelled at him to “Just do it yourself!” and how they got into

a fight and are no longer on speaking terms. Mike says it doesn't feel very good that people get fed up with him about his spelling quite a bit. In the past, he reflects how anxiety was mostly related to school work and "wanting to get it perfect." He says he is now a little "more laid back when it comes to homework."

Mike is entering high school next year. His mom has already met with the high school integration support teacher. Jill states Mike is excellent at communicating and advocating for himself. While she worries about the quantity of students and the increased number of teachers Mike will have, she trusts they are all aware of his IEP and implementing the accommodations. Not only is Mike starting high school he is also beginning a new lacrosse academy, something he has wanted to be a part of since he was 8 years old. Both Mike and his mom comment there could be some hazing, which worries both of them. Mike is small for his age, in about the 10th percentile for height. Jill states many of the other lacrosse boys have "at least 50 to 60 pounds on him". Lacrosse is a contact sport and Jill states this is a risk for Mike. But he is highly skilled at the game and one of the best at stick skills. Mike plays lacrosse up to five times a week, with some practices almost three hours long. He is highly committed to lacrosse and strongly links this to his identity. Much of his social media participation is related to lacrosse. He is looking forward to high school with his lacrosse buddies. Mike states, "being an athlete, being good at sports stuff, sort of boosts my confidence."

Mike has become his own advocate. His teachers say he introduces himself by saying, "Hi, I'm Mike and I have dyslexia." He is very open about his learning challenges and prefers to describe his experiences as a learning *difference* (rather than disability). He explains how the public school program is designed for a certain type of learner, and he just learns differently. For Mike, dyslexia is a type of gift; he says he has better spatial awareness than other guys in sports

and is a good artist. At school some students have “mocked” Mike about difficulties with reading. Mike doesn’t hide his learning difference and tells people as often as he can. Mike is currently working on a science project on the topic of dyslexia that he was preparing to share in class.

“At this point” Mike says his parents are his best friends, yet he wishes he had a best friend at school. He says he has “no really good friends, only friends . . . it’s sort of tough.” Mike explained a few situations from school with “people being mean” to him and how he tries to ignore it, but it can “get [his] back up.” Mike feels like his parents really understand him. His mom knows how to make him laugh; he says his parents are patient and understanding and shares how good it feels to have support like that. Mike certainly has a high level of personal insight and ability to think critically about himself and external situations. He is an avid artist and athlete and hopes to one day to be an architect.

Emily’s Family Story

Emily is a sociable and creative 13-year-old. She likes music, skating, reading, and chatting online with her friends. She has an older sister and two parents who are closely involved with her school and activities. In grade 2 Emily’s struggles with attention and learning math started to become evident to both her teacher and her parents. Her parents noticed it was taking a little longer than expected to learn certain math concepts. At this time, Emily started getting learning support at school and was pulled out (of the general classroom) for extra learning help. Emily’s parents, particularly her mom, Joan, started providing Emily with extra learning help at home. By grade 4 she started getting extra math support through a community agency that the family found useful for learning her multiplication tables and they continued for about three years. Grade 4 was a challenging year; with a tough teacher and increased academic expectations

Emily began to miss a lot of school due to reported stomach and headaches. Concerned, her parents explored the issue medically with one doctor diagnosing acid reflux; however, there remains a lack of clear medical explanation to date. Missing school became a vicious cycle of getting behind with work piling up and Emily not wanting to go to school regularly. Mornings were particularly difficult transition times and Emily was often late for school. A stressful time for both her and her parents, there was mounting pressure to attend school on time and regularly, and to catch up on the missed work. Emily's mother Joan also would ask the teachers for reduced amounts of work and emphasized Emily's unusually long time to complete written work.

Writing became an increasingly difficult task for Emily as she struggled with forming sentences and completing projects that required more writing. Her parents Ron and Joan realized Emily's school struggles were problematic and by the end of grade 7 Emily had a psychoeducational assessment completed that resulted in diagnoses of Specific Learning Disorder with Impairments in Written Expression and ADHD (inattentive presentation). Ron and Joan reflect back on this time and discuss the struggle of not knowing what had been going on, wondering if the stomach aches were cause for medical concern and how it had not been clear it was academic/attention issues with some symptoms of anxiety at play until later. After the psychoeducational testing, Joan and Ron decided to change Emily to a private school, because they felt they felt her new school was more supportive of Emily's unique learning needs and had smaller class sizes. At her new school homework progress was posted on an online systems and Emily also had a resource block. Emily also takes medication that has been found to helpful for increased attention and focus.

During middle school, with increased amounts of homework, Joan often worked with Emily during the evenings to track what needed to be done and due dates. Homework remains a

struggle, especially when working on assignments involving writing. Emily candidly states that she procrastinates, she states writing down her thoughts is really hard and the ideas don't come out the way she wants them too, so she leaves it until the last minute. She says, writing "feels like a dead weight . . . like dragging a dead body up a hill—a really heavy lion!" Expressive and friendly, Emily is clear about her interests, she likes reading and "actually [is] really interested in sound waves and light refraction." The family works together supporting Emily to complete homework. Ron is the "math guy" providing additional math support and Joan helps with larger assignments. Joan often works through the homework with Emily, providing help to get started, develop project ideas, and organization in general.

At school Emily has assistants to "refocus" her. She typically finds the assistants annoying, "always getting on [her] nerves" and overly directive. She recalls sitting in math lessons and then being surprised when the lesson ends. Emily said "I'll be sitting there, and it will be the end of the lesson . . . and I'll be like "what happened?!" . . . I thought I was listening." She often feels like she doesn't know what's going on and then "scared to talk to someone about it because the teachers usually say "You weren't listening and that's disrespectful." Sometimes Emily calls her mom from school to come and pick her up. Joan states she sees Emily's anxiety issues centered on school. Before school, or while she is in school something might happen such as a teacher singling her out and then Emily "is hitting the road, she's out!" Both Emily and her parents notice how school is hard on her confidence.

Using the Internet, cell phone, and iPod are privileges Emily earns when she follows the house rules. Lately her parents have been trying to restrict her Internet usage, as it is a major source of distraction. Emily needs the Internet to do her homework, but she also could spend all day chatting online with friends and watching YouTube. She doesn't have her cell phone at the

moment as a consequence, but she does spend a lot of her time socializing with friends, primarily online. Emily insists watching a movie or listening to music helps her focus on her work, but her mom wonders about listening to calmer, instrumental music instead. Uses of technology have been big issues in this household. Joan states: “We have a fight almost every day about the computer as a distraction.”

Mornings remain a difficult time of day. Her parents report she often “disappears” into the bathroom. When asked about the difficulties in getting out the door in the mornings Emily says she is avoiding “entering into 7 hours of pain!” Joan and Ron notice how, for Emily, feeling anxious often manifests as avoidance. Presentations in particular are a challenge, Emily states she is not confident about what she produces and Joan also notices she does not like to be on the spot at school. Emily recounts telling her mom she was sick one day to get out of a presentation. Emily is starting to notice that maybe not wanting to go to school is related to her feelings of (anticipatory) anxiety. . . . She says, “That’s what my therapist thinks, and I think she is probably right!” Emily is interested in science and language arts but says, “I just totally don’t remember anything my teachers say.” At home she faces similar struggles, her mom “will tell [her] like three times and [she] keeps coming back to the kitchen and asking what [she] was supposed to do.” Perhaps this is why Ron and Joan say “getting her to do anything is a challenge. . . . she avoids . . . even chores, setting the table.”

Joan and Ron have found practicing patience and talking to other parents to be very helpful. Joan has completed several parenting courses that have left her with great connections to other families. She suggests it’s been hard to find the good resources and most of the supports, like the psychoeducational testing and counselling, have been suggested through friends. Joan says she has done her own counselling to get help with strategies too. Additionally, Joan has

found regular exercise, time out of the house with friends to dance or watch movies have been good activities for managing stress. Ron plays hockey, socializes with friends, and walks regularly. They both state they have stressful jobs, so these activities are really important to manage their stress. While there is no major family history of mental health problems, Joan has had periods of anxiety. She states her personal knowledge with anxiety has helped her to better understand her children's experiences.

Emily says she does not really notice her learning difficulties as much as other people do. She says she likes school, except math and "writing stuff" and is an avid artist and musician. She excels at reading (her performance is significantly above average). She plays saxophone and piano, and loves singing. Her parents commend her ability to read and play music and affectionately discuss her ability to sing (at the top of her lungs!) scenes from musicals. Emily loves music and listens to it "24 hours a day."

An excellent figure skater, Emily is heading towards competitive level. This year she is working on her axel, the last jump before she will "start doing doubles." Emily says she considered quitting last year but she can't now that she is so close to doubles. Her parents say that she gets stomach aches on the ice, too, and wonder if this anxiety might be related to a highly driven teacher with high expectations. Nevertheless, Emily loves her skating coach, who has known Emily since she was little. In contrast to her parents' worry, Emily states that skating calms her nerves, and, when she is having a bad day, skating can help to clear her thoughts.

Emily says even though her parents may get on her nerves she does feel like her parents "get what's going on with her" and that they are helpful. She feels like her older sister is also supportive and she likes her company. Emily states she can confide in her friends and counsellor.

Preparing for high school, Emily seems excited and keen to start musical theatre as she dreams about being an actor one day.

Results of Phase 2 Analysis: Case Proposition Themes

The second phase of analysis involved analyzing the qualitative interview data to further explicate the case proposition descriptions and identify associated themes. Table 7 shows each proposition and the data themes associated with them. The propositions and themes are then discussed in more detail.

Table 7

Case Propositions and Qualitative Themes

Case Propositions	Themes
1. LD and mental health problems co-occur.	Exhaustion Low confidence and avoidance School experiences Youth insight
2. Youth personal (social-emotional) factors influence youth anxiety and depression.	Communication skills Motivation and goal setting Self-awareness and self-advocacy
3. Contextual factors influence youth mental health	Competitive sports Creative interests Community resources Friendships School context
4. Family relationships influences youth mental health	Family relationships and emotions Communicative and trusting environments
5. Parenting behaviours influence youth anxiety and depression.	Parents monitoring homework Parents as advocates
6. Parents of children with LD experience increased distress.	Managing the household Concern for their children
7. Parent symptoms of depression influence their children's mental health.	Family mental health histories Strong support networks

Proposition 1. LD and mental health problems co-occur. Parent and youth participants speculated about the relation between LD and mental health problems. From the parent perspectives, the relation stemmed from exhaustion, their children were exhausted from extended periods of concentration and self-regulation at school. Feeling exhausted often led to behavioural issues such as periods of crying, yelling, angry outbursts, and physical symptoms such as stomach aches. From the youth perspectives “not feeling confident” at school about quality of assignments, lesson instructions, or “feeling different” lead to feelings of anxiety. Standing out or being singled out as a person with a learning disability was a stated concern. Anxiety avoidance behaviours were often described; missing school and wanting to leave school early due to class presentations or social difficulties with friends were common experiences.

For these participants, anxiety seemed evident from an early age and primarily centered around experiences or activities related to school. Working with parents on missed school work (“always trying to catch up”) and nightly homework elicited major tensions and frustrations between children and their parents at different developmental periods. The quantity of homework during the elementary school years was a common source of anxiety. Other issues related to anxiety included having difficult/unsupportive teachers, poor early elementary school experiences, children disliking school, feeling bored at school, procrastination, and perfectionism tendencies.

Parents also noted their children were developing insight into the LD and mental health problems connection (though not to the same degree) and that understanding and discussing their feelings about it has been helpful. Parents suggested that ongoing conversations about learning differences (“what that actually means”) and discussions about how brains work differently have been important elements in their children’s lives to enable them to challenge the sentiments

about “feeling stupid and not normal.” In the school context, parents observed that as teachers provided reassurances and noticed more strengths, their children’s confidence improved and anxiety lessened. The reverse was also true—increased teacher demands and focus on deficits tended to lower confidence and increase anxiety.

Proposition 2. Youth personal factors influence anxiety and depression.

Communication skills, motivation, goal setting, self-awareness, and advocacy were specific skills and abilities that were identified in these cases as helpful and hindering (when absent) influences on anxiety and depression. The two youth participants differed significantly in personal characteristics, for example, they varied in their levels of motivation. A “very motivated person” who sets personal goals, one youth set high expectations for himself academically. In contrast, the other youth participant was described by her parents as “easily frustrated and gives up easily . . . lacking motivation completely.” However, this second youth had recently started working with a personal counsellor to learn more about identifying feelings and managing emotions.

Self-awareness and self-advocacy skills appeared to be connected for these two cases. With increased levels of self-awareness and insight into personal strengths and weaknesses, one participant was becoming his own advocate (rather than parent as advocate). He very clearly articulated his feelings and fluently identified a range of feelings and behaviours related to specific experiences. This participant described how he regularly asks for help and talks opening about his learning disability to his teachers at school. In contrast, the other participant was hesitant to ask for help because she found teachers chided her for “not listening”. She also demonstrated fewer insights about her particular strengths and weaknesses related to her LD.

Proposition 3. Contextual factors influence mental health. Both youth discussed passionate interests in competitive sports. Strongly identifying as “athletes” and progressing in their field of sport were crucial, helpful aspects of these young peoples’ lives. Each youth talked about sports as focusing and calming activities; they felt competent and successful at their sport. They also had other varied interests including musical instruments, animals, and reading. Both youth also identified as “creative people” who are artists and love music. In these cases, sports and creativity through art and music served to ease anxiety and develop confidence.

Parents discussed using community resources such as tutors, counsellors, and parent programs to gather information and to support their children. These parents found it most helpful to explore community resources through other parent referrals. Both youth had used different community educational programs at younger ages for help with math, reading, and study strategies. Both youth had seen and currently see counsellors for treatment of anxiety. From their perspective, seeing a counsellor helped to gain understanding into their personal experiences and helped to “make stuff make sense.” Community resources were helpful influences in the overall lives of these families to not only develop their children’s academic skills, but also to help develop more effective parenting practices and to learn skills to manage mental health problems. As the youth became more equipped to understand and complete school tasks, parents observed gains in confidence and the youth being able to “better manage their LD.” The use of technology to assist with reading and writing and to reduce direct homework support from parents was also understood to promote independence and confidence.

Friendships as promotive factors varied between the two youth participants. Overall, it appeared participants had social interests (stating “I am happier when I am talking to people”) yet had few friends. One youth discussed a supportive and close group of online friends,

however, her parents questioned the viability of these online relationships; they commented their daughter had few “in person” friends and rarely invited friends over to their house. The other youth stated he felt anxious about not having friends and felt worried about friends getting fed up with him. His parent noted how his mood shifted easily, depending on how things were going with his friends. This youth participant discussed longing for closer, intimate friendships and feeling lonely at school. Perhaps related to limited friendships, their older sibling was an important, understanding relationship in their lives. Both youth participants discussed positive sibling relationships. Parents noted the older siblings were supportive and protective of their younger siblings. Both older siblings had also experienced clinical mental health issues in the past, which may have influenced perceived support.

Youth discussed subjects that they found difficult at school. For example, French and Math were demanding subject areas. Using technology at school helped to alleviate some added difficulties and stress. Google Docs, audiobooks, and online homework progress reports were useful tools. Accommodations documented in psychoeducational reports and individual educational plan (IEP) reports reflected schools not always implementing the recommended accommodations. One family discussed concerns over the school not providing enough accommodations for their child. However, being “pulled out” for learning support was described as a frustrating experiences by both youths. Educational assistants were described as controlling, not helpful, and “overly watching.” Some teachers were described as acting in exasperated manners while other teachers were touted as understanding and caring.

Proposition 4. Family relationships influences youth mental health. Positive family relationships were crucial influences to youth with LD. Families discussed working to develop good communication practices, act sensitively to each other’s feelings, establish clear

boundaries, and create a trusting environment. Parents were aware of positive parenting practices, yet also articulated some of the challenges they faced, such as difficulty enforcing clear boundaries (e.g., around technology use). In these cases, family members discussed being very sensitive to each other's feelings and emotions and noticed how difficult it was to "buffer and filter"—suggesting when one member of the family was stressed out it was often difficult for other members of the family to not take on the felt stress as well. One family described how family dynamics suffered when their child struggled more at school; when the child's anxiety elevated, the entire family was negatively affected.

Parents spoke about developing open communication in their households, intents to reduce stigmas around mental health problems, and promoting an environment to talking openly about struggles. Mothers, siblings, and the youth themselves all had mental health problems at varying developmental periods. Both youth felt understood by their families yet differed in their stated trust to confide in their parents.

Proposition 5. Parenting behaviours influence youth anxiety and depression.

Parenting behaviours related to homework were most commonly discussed. Mothers described thoroughly tracking, prioritizing, and finalizing homework with their child. Parents noted the challenge of supporting rather than "giving the answers." Levels of direct support varied, but both parents had gone through different developmental periods of exhaustive homework involvement. Homework activities included tutoring (direct instruction), coaching with idea development or editing, teaching study skills, and providing high levels of emotional support. Checking on homework progress, with the child directly working on their assignments or studying for tests at home, was another monitoring activity discussed. Youth directly commented on this parenting behaviour stating, "it's annoying", yet the manner in which it was discussed

reflected actions that demonstrated parent caring to the youth. Parents and youth both expressed the importance of parent patience, particularly on issues such as homework. Homework was a stated source of parent-child tensions in these cases.

Parents also advocated for their children at school. Closely monitoring school activities from the early elementary years, parents were strong advocates for their children. Pushing for psychoeducational testing, changing schools, requesting specific teachers, regularly communicating with teachers, monitoring accommodations implementation, and learning about LD were some identified advocacy behaviours. Both families also questioned the use of “labels” and curiously questioned what “LD” really meant for their child.

Proposition 6. Parents of children with LD experience increased distress. Both families described the implications of LD as an added stress on the entire family. Together with handling multiple “demanding relationships,” including other children with mental health disorders and elderly parents, managing LD was said to increase personal stress. Both mothers discussed taking on the role as the mediator in their households— “keeping the peace”—and how this felt overwhelming and burdensome at times. Additionally, managing multiple responsibilities such as work-related obligations alongside intensively supporting their children was conflicting at times. Phone calls at work during school hours from their children were not uncommon. When requests to come home from school were denied, mothers described feeling concerned, wondering about their child at school for the remainder of their day. Families shared worries related to their children transitioning to high school next year, a stress they stated they did not have with their older children.

Both mothers shared the ways in which they managed their personal stress. Specific self-care strategies such as exercise, connecting with friends, and seeing a counsellor were described.

Moreover, families suggested how resources they gained through counselling or reading books on managing anxiety were both personally helpful as well as useful to share with their children.

Proposition 7. Parent symptoms of depression influence their children’s mental health. When probed about personal mental health experiences both mothers described periods of clinical anxiety. One disclosed an extensive family history of mental health disorders, including depression. Both mothers discussed how their personal experiences with anxiety or depression helped them to better understand their child’s experiences with anxiety. At times in their lives parents had experienced significant mental health challenges; they had sought professional help during those periods. Attending counselling was a regular “on again off again” cycle in both cases. Parents suggested that learning strategies to manage their own mental health and “knowing how to navigate the system” were beneficial in supporting their children to manage their own anxiety.

The families described strong resource networks that helped to buffer the potential influences of their mental health challenges on their children. Supportive and close extended family, strong personal friend groups, access to community resources, and financial stability served to significantly influence ways in which both families managed parent mental health challenges.

Two-Case Study Discussion

The purpose of Study 2 was to explore youth experiences and parent perspectives to gain deeper understanding about what influences mental health among youth with LD. This two-case study was designed to gain rich, detailed information and insight into family experiences. Family stories were constructed to capture the in-depth descriptions of the everyday experiences from the youth and parent perspectives. This qualitative data extended the findings from Study 1

through the case proposition thematic descriptions. Seven case propositions were generated and explored, with related data themes identified. Gorard (2002) argues the “use of large-scale secondary and documentary evidence supports the belief that the patterns investigated in later phases were genuine ones, but also enables reasonably general conclusions to be drawn from the interview data” (p. 351). Uniquely personal experiences and several overlapping explanations related to the co-occurrence of LD and mental health problems among youth were described by participants. The discussion section below further highlights some of the daily experiences discussed by the youth and parents and then integrates the case study findings with other relevant literature. The qualitative findings illustrate a complex relation of LD and mental health problems and related experiences. Findings from Study 2 include specific descriptions of youth fatigue and self-efficacy, and show that family relationship challenges are related to (but not limited to) elements of the daily experiences linked to the co-occurrence of LD and mental health problems.

Family Experiences of Youth LD and Mental Health

Results from Study 2 depicted daily experiences in the two families. Anxiety was described as developing during childhood as school work difficulties and frustrations mounted. Particularly challenging times were, for parents, the process of LD identification and, for children, increased demands at school, particularly the quantity of homework. Youth described some awareness of the challenges related to LD (e.g., academic and peer difficulties) and some avoidance behaviours and anxious symptoms. Parents’ articulated experiences of worry and concern and some difficulty managing multiple challenges (such as family relationships coupled with work demands) related to parenting and managing their households.

Youth Fatigue. Parents articulated the utter exhaustion their children often faced through their school experiences. While it is not surprising that youth with LD feel tired from intensive periods of school activities requiring long periods of concentration and direct focus on skills related to their LD (e.g., writing), there appear to be few empirical investigations related to this specific finding. Brook and Boaz (2005) examined adolescents with co-occurring LD and ADHD and found more than one third of their sample (of 308 participants aged 12 to 18 years old) reported excessive fatigue and required increased hours of sleep. Fatigue, specifically chronic fatigue syndrome, has consistently been found to be associated with high levels of psychological difficulties, such as anxiety (e.g., see Richards' [2000] review article). Children and adolescents (aged 10 to 18 years old) with fatigue reported concerns about school related issues such as homework, educational expectations, and attendance (Garralda & Rangel, 2004). Fisher and Crawley's (2012) qualitative study with youth experiencing fatigue found worries about school work to be the most prevalent finding – findings from these last two studies give rise to questions about which might come first, fatigue or school difficulties. Consistent with the results from the current study, missing large amounts of school and being unable to catch up were common concerns for fatigued youth (Fisher & Crawley, 2012). With the added LD element in the present research, these findings highlight LD, fatigue, and internalized distress in the context of daily school experiences as influencing youth development.

Youth Self-Efficacy. Findings from this study exemplified descriptions of low confidence. Both youth experienced significant, daily challenges related to activities such as reading and writing. Confidence in the quality of their school work or being singled out as having difficulties were sources of anxiety. Brook and Boaz (2005) found adolescents with co-occurring LD and ADHD to be “severely stressed out when going to school and sitting in class”

(p.187), feeling different from other classmates, and having low confidence. Often identified as “confidence”, self-efficacy refers to beliefs about capabilities to carry out purposeful action (Bandura, 1997). The study of self-efficacy as a key factor that influences the academic success of children, youth, and adults, particularly young people with LD, has been established in the current literature (e.g., Klassen, 2010). In the present study, parents specifically commented that having their children become more confident and more strategic in handling their school work led to increased feelings of youth independence and fewer anxieties. Parents also suggested that as teachers noticed strengths and offered supportive reassurance, their children’s confidence increased. These findings complement Butz and Usher’s (2015) results from their mixed methods study examining fourth to eighth grade students’ reports of what made them feel more confident in math and reading. Much seminal research has shown that self-efficacy predicts student motivation and learning (e.g., Pajares, 1996; Schunk, 1995). For students with LD, Klassen (2010) found performance in literacy-based subjects was only partially dependent on reading ability; of almost equal importance were students’ beliefs in their capabilities to manage their learning environment.

Low self-efficacy can lead to fearful expectations and avoidance behaviours (Bandura, 1997). Bandura (1988) states, “people avoid situations and activities not because they are beset with anxiety but because they believe they will be unable to manage” (p. 91). For some students with LD, poor academic performance may be the result of low confidence to manage their learning, not merely low skill levels (Klassen, 2010). The findings from the current study suggest that youth with LD may avoid peer and academic situations due to low confidence or even fear of embarrassment (e.g., related to in-class presentations). Hampton and Mason (2003) suggested lower self-efficacy among students with LD, compared to non-LD matched peers, was due to

fewer successful experiences, less access to successful peer models with LD, and less support from teachers. Lackaye, Margalit, Ziv and Ziman (2006) found that even when the academic performance of students with LD is similar to their non-LD peers, their self-perceptions continues to reflect distress. While students with LD may become high achievers, not unlike one case in the present study, Lackaye et al. (2006) noted these students may be aware that their hard work, while currently paying off, seems both increasingly arduous and endless – so, some students retain low self-efficacy.

Bandura, Patorelli, Barbarabelli, and Capara (1999) have previously demonstrated strong evidence that low self-efficacy does predict some childhood internalizing disorders. Muris (2002) found low self-efficacy to associated with high levels of anxiety and depression among youth, also noting the connection between self-efficacy and depression, predominately carried by anxiety. In a longitudinal examination of 658 Finnish adolescents with LD (aged 15 to 16 years), Kiuru, Leskinen, Nurmi, and Salmela-Argo (2011) suggested “feeling inadequate as a student” was related to elevated depressive symptoms. Taken together, these studies indicate that depression is frequently a consequence of low self-efficacy and increased levels of anxiety among children and youth.

Family Relationships. Findings from the present study suggested that parents are actively perusing resources to develop positive parenting practices. Enhancing communication, discussing feelings, expressing emotions, and developing trusting environments were described. These positive family relationships, theorized to be promotive factors, appeared to curb the cumulative risks youth with LD and mental health problems may experience (such as negative school experiences). Parents also discussed their experiences of stress and some challenging relationships due to raising a child with academic and emotional difficulties.

Parents articulated the daily worries they felt, knowing that their children struggled with academic and social tasks and often experienced anxiety while at school. Existing research has demonstrated caregivers of young people with mental health problems (Tang, Jang, Lingler, Tamres, & Erlen, 2015) and of children with LD (Al-Yagon, 2015; Bonifacci et al., 2016) have been found to experience increased levels of stress themselves. Sadly, many families consider LD to have a significantly negative impact on family life (Karande et al., 2009; Snowling et al., 2007). While parents in the current study did not use the word “burden,” they described significant amounts of work through communicating with schools, scheduling, helping with homework, and emotionally supporting their children. Moreover, both mothers noted the benefits of flexible working schedules, yet also experienced stress and pressure to complete work responsibilities. Reavley and Jorm (2014) posit the impact of caring for a child with mental health problem may have an impact on parental workforce participation, particularly due to the stigma of the child’s difficulties. They also suggest that reduced access to professional support and less engagement with others can lead to parental isolation and decreased support (Reavley & Jorm, 2014). Parents in the current study specifically commented on the importance of connecting with other parents facing similar challenges and gaining knowledge and access to appropriate resources through other families’ recommendations. Both mothers described the significance of emotional support, whether from extended family or friendships, as crucial factors to their personal well-being.

Chapter Summary

Study 2 elucidated detailed personal and family experiences related to youth living with LD. Through case study methodology, two families’ experiences were explored. Findings illustrated the complex psychological, social, and educational implications of youth with LD in

family context; several key themes identified challenges the youth and their families experienced. The current findings contribute insights into the perspectives of families supporting young people with co-occurring challenges. Wingrove and Rickwood (2017) state there is a critical need to acknowledge the impact that caring for a young person with co-occurring LD and mental health difficulties has on parents and to develop interventions aimed at reducing the burden and stress associated with this experience. Supporting these children and youth requires support for the entire family system. Parent-child relationships are of utmost importance to developing children and appear to buffer and protect to some degree against negative school experiences for children with LD. More family-based longitudinal research is needed to promote the mental health of young people as well as that of their parents; parents need to be in the best possible position to support their children with LD.

CHAPTER SIX: INTEGRATIVE FINDINGS

Integrated Discussion, Future Research, and Implications for Theory and Practice

Using a mixed methods research design (MMR), the present research explored factors that influenced mental health problems among youth with LD. Study 1 quantitative analysis results demonstrated a small association between LD and emotional disorder diagnosis among 14- and 15-year-olds in Canada using the NLSCY data set. Family factors, specifically parenting factors such as monitoring, were related to fewer youth symptoms of internalized distress. Youth social and emotional factors also played a buffering role in reducing symptoms of internalized distress. Study 2 provided a rich qualitative understanding of experiences of two youth with LD and their families. Findings highlighted themes of fatigue, self-efficacy, and family relationships as central issues for youth with LD and mental health problems. While the path analysis employed in Study 1 allowed examination of what variables predicted certain outcomes, the case study approach in Study 2 provided the in-depth understanding and rich explanations of the characteristics, attributes, qualities, and environmental influences that affected two different families. Together, these findings contribute to further understanding of theoretical influences on development among youth with LD. Youth and parent perspectives were linked; influences on youth development were articulated from these joint perspectives. This final chapter integrates the findings from the two empirical studies with suggestions for future research, and implications for practice.

Integrated Discussion

Neither qualitative nor quantitative methods alone could have provided the depth of information enabling the unpacking of the relation between LD and mental health problems that the MMR approach yielded. Analysis and interpretation of Study 1 and Study 2 results have been

discussed separately in the previous chapters. This integrated discussion describes the combined insights into the quantitative and qualitative results and the overarching meta-inferences, which ultimately results in a deeper, richer understanding of the co-occurrence of LD and mental health problems. Through a MMR explanatory sequential design, the quantitative results from Study 1 provided the significant substantive results. Next, the two-case method in Study 2 was developed from insights gained from the quantitative strand. The “mixing” of results, in the MMR framework, is the interpretation of the inferences drawn based on the central findings from the two strands (Teddlie & Tashakkori, 2010). These integrated findings reiterate some of the initial findings from Study 1 and also include some qualitative explanations to extend understanding. This deeper understanding, then, leads to implications for research and practice. Inferences are drawn from the LD and internalizing problems relation, including youth influences such as social and emotional competencies and self-efficacy, as well as familial influences including relationships, parent characteristics, and parenting behaviours.

Co-Occurrence of LD and Internalizing Problems. The present study suggested there was a small association between LD diagnosis and emotional or psychological difficulty diagnosis from a health professional. Other research has demonstrated stronger effects; Nelson and Harwood’s (2011) meta-analysis found a medium effect size on measures of anxiety for students with LD in kindergarten through grade 12. To better understand the LD and internalizing problems phenomenon, in the qualitative Study 2, youth and their parents were asked to articulate their personal experiences related to LD and mental health problems in depth and detail. Findings from both strands suggest there are multiple variables and numerous experiences among youth that appear to interact to influence mental health. The integrated findings highlight the interplay of additional factors embedded between LD and mental health

problems that buffer or potentially exacerbate the relation, hence leading to a better understanding of why it could be difficult to “capture” a larger association between LD and symptoms of internalized distress—the relation is complex. While youth with LD may have an anxiety and depression diagnosis or report they are “prone” to anxiety or “often nervous,” a measure of internalized distress may not fully represent their ongoing experience of anxiety and depression which appears to fluctuate, depending on educational and family experiences.

In Study 2, youth and their parents were asked to explain their understanding of how LD and mental health problems function together, or not. Youth and parents described fatigue, issues related to confidence, and specific school experiences related to teacher relationships or academic expectations as instances related to youth anxiety. Both LD youth with LD in the two-case study experienced symptoms of anxiety yet had different ways of responding to their educational and family experiences. These cases highlight that the relation between LD and mental health problems is multifaceted and is affected by multiple individual youth, school, and family factors. Findings suggest the relation cannot be completely understood without taking into consideration the multiple levels of influences. Youth and familial influences on youth mental health were the central focus of this study. More research is needed to expand the investigation of family and school or community influences, eliciting multiple perspectives, to continue to better understand the underpinnings of the LD and mental health problems phenomenon.

Youth Influences: Social and Emotional Competencies and Self-Efficacy.

Social and emotional competencies including intrapersonal skills, interpersonal skills, stress management abilities, and adaptability were linked to fewer symptoms of internalized distress among youth with LD in Study 1. Following this central finding, Study 2 youth and their parents specifically described experiences related to youth communication skills expressed

through self-awareness, self-advocacy, and in friendships. Goal-setting strategies, motivation, and self-efficacy were also linked to a range of social and emotional experiences. Academic self-efficacy beliefs were most commonly described. Muris (2001) found negative associations between emotional and academic self-efficacy beliefs. In addition to academic self-efficacy, or perceived capability to manage learning related behaviour, researchers have differentiated other types of self-efficacy beliefs related to social and emotional domains (Bandura, Barbaranelli, Caprara, & Pastorelli, 2001; Muris, 2001). Social self-efficacy is the perceived capability for peer relationships; managing social challenges and emotional self-efficacy is the perceived capability to emotionally regulate and manage negative affect (Lackaye et al., 2006). Children and youth with LD have also been found to experience increased loneliness, described as dissatisfaction with the quality and quantity of social interrelation (Margalit & Al-Yagon, 2002). In the present research the quantitative findings pointed to the significance of emotional and social factors in general (termed “emotional intelligence” based on the measure used in Study 1); while the qualitative findings demonstrated specifically how competency beliefs about academic and social situations had a day-to-day effect on youth.

Familial Influences: Relationships, Characteristics, and Parenting Behaviours.

Exploring the influence of family factors was a primary aim of this research. The inferences drawn from the quantitative and qualitative strands highlight the complexities of family relationships as well as some measurement difficulties related to conceptualizing family functioning. Familial influences such as parent-child relationships, parent characteristics such as experiences of anxiety and depression, and parenting behaviours such as monitoring were identified as factors and experiences relevant to having a child with LD. Findings from Study 1 indicated parents’ self-reported symptoms of depression and their youths’ reported ratings of

parental monitoring were significant predictors of symptoms of youths' internalized distress, while parents' reported family functioning ratings were not. However, upon exploring this finding related to family functioning in Study 2, communication and emotional involvement between the youth and their parents was described as largely important and supportive processes.

Family Relationships. In Study 1, family functioning was conceptualized as problem-solving skills, communication between parents, and emotional involvement with children and between parents. The NLSCY parent questionnaire provided a global assessment of family functioning as an indication of the quality of the relationship between parents as reported by the most parent most knowledgeable about the child (91 percent of the reporting parents were the mothers). The lack of association between family functioning and youth internalized distress was not consistent with the hypotheses. Family functioning is a complex concept, difficult to reliably quantify and validly capture. Bögels and Brechman-Toussaint (2006) have criticized measures of family functioning as not adequately capturing the role of the family dimension due to lack of well-defined theoretical models. Interestingly, through the present study's qualitative strand, elements of family functioning such as family communication and emotional involvement were thoroughly described and noted as important supportive elements for youth. Thus, Study 2 findings provided detail related to Study 1 results, pointing to particular elements of family functioning that were most influential to these youths, and perhaps not captured in the Study 1 measure. For example, open communication with at least one parent and feeling that the parent was trustworthy were elements of family functioning in these families. The in-depth qualitative findings demonstrate the need to further define and unpack the complex notion of family functioning to adequately capture the concept, particularly for children and youth with LD.

Another key family issue highlighted in Study 2 was the relationship between both mothers, in this instance, and their child. Particularly important during stressful time periods, such as the identification process of LD and periods during which youth struggled with increasing academic demands, parent-child descriptions of strong relationships were experienced as significant sources of support and reassurance. Moreover, youth expressions of anxiety impacted the entire family; the entire family dynamics suffered after a bad day at school in one case. From an ecological perspective, family and cultural factors organize and shape child developmental outcomes (Cen & Aytac, 2016; Ungar, 2012). The family relationships described in Study 2 provided a protective context for developing children. In spite of increased awareness of the importance of relationships through adolescence, there are few studies investigating parental relational connections and overall family relationships for youth with LD, particularly for youth transitioning to high school (Al-Yagon, 2016; Duchesne & Larose, 2007). More research in this critical area is needed.

Parental Characteristics. Elevated symptoms of depression among parents were found to predict elevated symptoms of internalized distress among youth with LD. Study 1 findings were similar to results from previous research by Van Loon et al. (2014) identifying parental depression as an influential variable linked to youth experiences of anxiety; specific to the present study was the focus on youth with LD rather than youth in the general population. Other research has shown the direct relation between parental mental health diagnosis and internalizing and externalizing problems in children and youth (Beardslee et al., 2011; Elgar et al., 2006; Kingston & Tough, 2014; Van Loon et al., 2014). Study 2 findings revealed parental mental health struggles, and parents described the added challenge of also supporting their child's emotional difficulties. Interestingly, though, parents in Study 2 discussed their personal, past

experiences with anxiety as providing a deeper level of empathy and understanding into their child's current mental health struggles. Once again, these qualitative results shed light on the intricacies that may not be identified in the quantitative measures. The timing of and support for parent mental health problems appears to be a significant factor affecting the influence of these challenges to their children. Existing research has produced mixed outcomes when examining the role of parents' anxiety being modeled or otherwise reflected in their children's anxiety, with non-significant longitudinal associations and high heterogeneity across cross-sectional studies (Yap & Jorm, 2015). However, existing research has found that parents of students with LD show higher levels of anxiety symptoms than parents of students without LD (Snowling & Melby-Lervag, 2016). Delany's (2017) qualitative research highlights how lack of support has a detrimental influence on parents of children with LD. The current findings emphasize the complex and mutually influential relation between parental characteristics, such as the onset of parent mental health symptoms, support for parent mental health symptoms, parents' insight into mental health symptoms, as well as parenting characteristics and how these may all influence adolescent's mental health.

Parenting. The present research highlights the relation between positive parenting practices and fewer symptoms of internalized distress among youth with LD. The results from Study 1 suggest parental monitoring to be linked to supporting youth to develop emotional competencies to manage internalized distress. These parenting practices may act as protective factors for youth with LD and may also positively influence the development of their children's emotional and social factors that can help manage mental health problems. In Study 2, parental monitoring was found to be an essential parenting practice for youth with LD. For example, parents' knowledge of friendships and schoolwork were central issues related to monitoring.

However, constantly monitoring homework completion and uses of technology were also stated as challenges in one case and related to tensions in the parent-child relationships. Youth with LD and or ADHD frequently struggle with homework completion, which may be related to elevated anxiety symptoms, such as avoidance. Parental monitoring has been found to be effective in reducing homework problems and improving classroom preparedness in middle school students with ADHD (Meyer & Kelley, 2007). Parental involvement, which often takes the form of active checking and tracking (Jacobson & Crockett, 2000; Kerr & Stattin, 2000), is essential in implementing homework completion. In Wiener and Daniels' (2015) research on adolescents with ADHD, adolescents stated key messages for parents and teachers, including “that they be empathetic and supportive, keep them engaged, and ‘make them do their homework’ after taking a break after school” (p. 12.) Findings from the current study highlight the importance of the delicate balance of monitoring strategies for parents with children who experience learning and emotional difficulties. Despite positive impacts of parental involvement and school-related outcomes (see Spera’s [2005] review), parental involvement often declines in adolescence. Spera (2005) suggests further research is needed to explore this phenomenon of declining monitoring and the possible consequences. With documented strong associations between parental monitoring and school outcomes, this parenting skill appears to be of the utmost importance for youth with LD who also experience mental health problems. However, some parents with mental health diagnoses have been shown to have difficulties interacting, monitoring, and supporting their child (Van Loon et al., 2014); this would be an additional challenge for youth with LD.

Theory and research have emphasized the relation between parenting practices and the development of internalizing problems (e.g., see Creswell, Apetroaia, Murray and Cooper [2013]). In their meta-analysis among preschool children, Möller, Nikolić, Majdandžić, and

Bögels (2016) found the association between parenting and child anxiety to be significant yet small ($r = .06$). In a study of children aged 9 to 12, Chorot, Valiente, Magaz, Santed, and Sandin (2017) found negative parental behavior, such as aversiveness, overcontrol, neglect, and permissiveness, to be correlated with anxiety and depressive symptoms in children aged 9 to 12. Communication/warmth, permissiveness, and overprotection did not significantly relate to anxiety symptoms but rather communication/warmth related to less depression (Chorot et al., 2017). Van Loon et al. (2015) found that increased ratings of parental monitoring predicted fewer internalizing problems among adolescents whose parents had mental health diagnoses. The current study extends existing research linking monitoring as an influential factor among parents of youth with LD. Study 2 findings illustrated how through parental monitoring youth felt supported by their parents. These results signify important theoretical and practical considerations for parents of children and youth with academic and emotional difficulties. Again, more investigation is needed.

Implications for Theory and Practice

Ecological Theoretical Implications

Using relational developmental systems framework, youth experiences were contextualized through family experiences, unique to time and place. From this ecological perspective of development (Overton, 2015), the mutually influencing relations between youth and their biological and cultural influences were described. Specifically, the coacting parts of the systems that influence youth development were identified at the familial level through exploring parenting and family ecological factors. In this study, the manner in which familial influences influenced youth variables such as social and emotional variables and symptoms of internalized distress was directly explored. The findings underscored the principle that parts of the relational

system operate coactively to influence development. Through examining the layers of influence from individual to family, influences are understood as contextualized and unique to particular systems—similar influences were seen to influence development in different ways.

An ecological understanding of resilience takes into account the complexity of the developmental relational systems and the mutually influential levels to explain positive growth under adverse conditions. In the present study, LD and mental health problems are theoretical risks for the affected adolescents. Promotive and protective influences are often defined as the personal qualities or contexts that correlate to positive adaptation under adverse situations (Egeland et al., 1993; Wright & Masten, 2015). Positive growth despite risks illuminated in the qualitative study included successful managing of symptoms of internalized distress, good general mood, positive academic outcomes, optimistic attitudes about school, peer friendships, and supportive family relationships. Resnick (2000) summarizes protective influences stemming from the complex interplay of: (a) extra familial environmental processes (e.g., peers, schools, community, neighbourhood); (b) familial processes (e.g., resources, parental characteristics, parenting behaviours); (c) self-system processes (e.g., connectedness, close relationships, social responsibility); and (d) individual characteristics (e.g., health, cognition, beliefs) (Resnick, 2000, p. 158). Influential work by Garmezy, Masten, and Tellegen (1984) suggests protective factors operate through compensation, challenge, and immunization mechanisms. Risk and protective influences combine in the prediction of outcome in the compensatory model. A high-risk condition can become a potential enhancer of competence in the challenge model; in the immunity model, protective factors may “buffer” the stressful impact of risk factors (Werner, 1999). Hence, for children with complex diagnoses, as social and academic competencies mount over the course of adolescent development, so can resilience as long as there are buffers within

the system that support development. Strong social and emotional competencies, secure attachment relationships, effective educational systems, and access to community resources are examples of bio-psycho-social-cultural influences potentially considered buffers to reduce negative outcomes experienced by youth.

An ecological systems perspective suggests youth with different characteristics, such as LD, or those in different family contexts (e.g., parents experiencing symptoms of depression), may be differently affected by parental dimensions, such as monitoring. While much research has provided a strong empirical base that parental monitoring is an essential parenting skill, fewer studies have linked this parenting behaviour specifically to mental health among youth with LD. Family processes occur within a specific family context, with individuals bringing to the family attributes and characteristics that will impact each family uniquely. The present research highlighted different LD familial experiences of parental depression; for example, the case study parents reported that their own experiences of mental health diagnoses actually improved family understanding of youth mental health challenges. Moreover, these parents had knowledge of “navigating the system.” Often, parental mental health research is reduced to the examination of “transmission” of negative effects to their children, rather than exploring the potential positive effects or coactive influence of parent and child experiences. This, too, is an area that requires more research.

Research Implications

In this explanatory sequential MMR study, integrating qualitative and quantitative findings illustrated the complex relation of LD and mental health problems among youth. Including both youth and parent interviews moved this research beyond the investigation of general associations to further describe personal perspectives about how such influences actually

play out in daily life. While the field of youth research is flourishing, Cahill (2007) argues there is a paucity of research on everyday lives from a youth perspective. Actually *listening* to youths' hopes and trepidations is crucial to understanding and participating in social change (Cahill, 2007). Understanding the subjective daily experiences of youth with both academic and emotional concerns together with the family's perspective is not frequently explored in the research literature. An exception is Fullarton and Duquette (2015) qualitative case study examined family perspectives as youth with LD (aged 16 to 22 years old) prepared for employment and postsecondary. Delany (2017) also conducted a qualitative study but with only parents of children aged 4- to 12-years-old diagnosed with dyslexia. The present research is one of the few qualitative studies related to youth with LD and their families; there is also a paucity of rigorous MMR in the fields of LD (or inclusive education) and counselling.

Existing research using NLSCY has provided thorough descriptions of elementary and middle school children from Cycle 4 (2000-2001) who received services for a LD (Whitley, Lupart, & Beran 2007) and an emotional-behavioural difficulty using the NLSCY (Whitley, Lupart, & Beran, 2009). In these studies, teachers, parents, and the children themselves reported on personal and family characteristics as well as social, academic, and school experiences. A particularly poignant finding from Whitley et al.'s (2009) study highlighted how parents and teachers held lower academic expectations of children with emotional-behavioural difficulties. Whitley et al., (2007) also examined experiences of students with LD finding that teachers reported students with LD to demonstrate lower social skills and that teachers suggested parents were not as involved their child's with LD education as compared to students without LD. The current research extends previous findings by exploring the combination of LD and mental

health problems in middle adolescents and examining influences that are directly amenable to intervention.

Mixed Methods Quality Assurances. MMR involves unique procedures, hence, specific criteria have been proposed to aid in evaluating the quality of a study (Fabregues & Molina-Azorin, 2017). A challenge to researchers employing mixed methods approaches is the plurality of views within research communities on how quality should be conceptualized (Ivankova, 2014). Fabregues and Molina-Azorin (2017) provide an summary of the most commonly suggested quality criteria described in recent literature. Nineteen criteria were identified that spanned the planning, undertaking, interrupting, and dissemination phases of a study. Several of Fabregues and Molina-Azorin's top-ranking quality criteria are part of the present study: (a) quantitative and qualitative components are rigorous and adhere to the specific quality criteria of each tradition; (b) quantitative and qualitative components are effectively integrated; (c) the rationale is stated for using mixed methods design to address the research questions; (d) each component's methods are clearly described; and (e) philosophical assumptions are clearly stated.

Tashakkori and Teddlie (2003) introduced the term "inference quality," characterized by meaningful integration of the qualitative and quantitative methods. In sequential MMR designs, the way in which one study strand leads into another strand and the quality of the findings from each strand markedly influence the quality of the meta-inferences (Teddlie & Tashakkori, 2010); the design in the present study demonstrates this integration and strand linkage. Ivankova (2014) offers specific validation strategies for a sequential quantitative to qualitative mixed methods research design, suggesting the following procedures demonstrate the quality of the integrated inferences from both strands that lend to the overall integrated finding: (a) applying systematic processes for selecting participants for the follow-up strand; (b) explaining unexpected

quantitative results; and (c) noting interactions between the strands. The procedures described and employed in the present study are consistent with these descriptions of quality assurance.

Strengths of the Study. The overarching framework of this study is explicit to a relational development systems theoretical framework, utilized to understand personal and familial influences. Few studies examining the direct relation between LD and internalizing problems have described a clear theory from which to make inferences amenable to intervention. Moreover, few studies use large enough samples to make sound statistical generalizations. Study 1, using secondary data from a large Canadian sample, expanded existing knowledge of the associations that predict internalized distress in youth with LD.

In Study 2, the LD diagnosis was confirmed through participants' psychoeducational reports. Confirmation of LD has been notoriously inconsistent in the current literature. Often established by self-report, placement in special education classes, or even self-report of general learning difficulties, heterogeneous LD samples are problematic and researchers are vulnerable to such inconsistency of reported information. While Study 2 included only two participants, the background detail gained from participants' psychoeducational assessments together with the confirmation of LD diagnosis is a strength of the study.

MMR is a burgeoning approach and new ways of "mixing methods" are developing. The combination of secondary data analysis and two-case study method is a distinctive approach that demonstrated quantitative and qualitative methods integration through the use of case propositions. Using a MMR approach is a contribution to both education and counselling research because it addressed distinctive research questions not only related to understanding population trends but also capturing individual experiences. Addressing the use of secondary data in educational research, Gorard (2002) termed the most frequent way of combining research

findings the “new political arithmetic” (NPA) model (p. 351). Smith (2008) explains the model is termed “political” because the aim of research is to influence government procedure and policy, and “arithmetic” relates to utilization of numbers in large-scale data sets. In mixed method research, the NPA model allows research findings to be combined in a two-stage process. First the research problem is defined using large-scale numeric data, then, in the second stage, the research problem is examined in detail using qualitative approaches. Each form of data serves its unique purpose for which it is appropriately suited (Gorard, 2002). Consistent with the NPA model, the present Study 1 utilized secondary data while Study 2 was an in-depth qualitative case exploration. This design adds to the small yet rapidly developing repertoire of MMR.

Limitations. The purpose of the MMR design was to examine factors related to mental health problems among youth with LD and findings must be interpreted within the boundaries of the design. The NLSCY survey data provided a sample large enough to make statistical generalization; however, as stated by Statistics Canada (2008), cross sectional samples were not topped up to reflect immigration patterns, thus, they do not reflect current Canadian population trends. Moreover, dependent on voluntary family participation, the survey data reflects a self-selected population and captures fewer families with diverse SES or ethnic backgrounds. A more thorough a statistical examination of gender and socioeconomic variables may have strengthened the current analysis. Additional limitations of the study are characteristics of the use of secondary data, such as the selection of measures, which limits the quantitative analyses to the predetermined survey items. Using the NLSCY constrained data sources to self-report of professional LD diagnosis in Study 1. The research was also limited by the measures used in the NLSCY, particularly for the symptoms of internalized distress scale central to this investigation. While it demonstrated sufficient internal consistency, the number of items was limited to seven,

which potentially reduced the ability to capture the construct of internalized distress and missed the school-related contexts of anxiety described by youths and their parents in the qualitative study. Analyzing both parent and youth measures purposefully served the multidimensional perspectives of the study, yet only personal and family factors were included in Study 1. The current research lacked school-level quantitative data, which would have included important contextual factors. Previous NLSCY cycles included teacher reports (e.g., Whitley et al., 2009); future longitudinal research examining multi-informants' perspectives is warranted to understand the multi-level, complex phenomenon of LD and mental health problems.

In Study 2, descriptions of school experiences and the IEP were data sources; however, there were no school data sources or measures available that were associated with youth development and successful academic outcomes. Two interviews were completed with each family, whereas additional follow-up interviews had originally been proposed to more thoroughly explore the family stories and to utilize a more collaborative story construction process. However, the second family signaled low interest and limited availability to engage in story creation. As a result, only one family actually confirmed and provided minor edits to a family story while the other family did not provide any feedback. Mothers primarily provided responses to the interview questions; while one father participated in the interview he seldom added comments and the other father was not available for the interview. More youth and family participants including fathers and siblings would have yielded more extensive and diverse data.

Future Research. A challenge to future research is to continue examination of the multiple levels of influence to unpack why these relations may be experienced by and/or impact youth in different ways and in different learning environments. Future research would benefit from adding school level variables such as teacher perspectives, including relationship measures,

and using longitudinal MMR designs. Examining more family cases will add to the small body of qualitative literature exploring family and youth perspectives and will yield more comprehensive explanations across diverse cases. Future research should continue to explore measures from multiple perspectives and replicate such models over time. More longitudinal findings are needed to demonstrate causation findings linked to ecological resilience models. School-family relationships require more research to establish how schools can enhance positive relationships and bridge the gap between ecological theory and practice in educational settings. Examining ways in which to best train preservice teachers to support students with multiple diagnoses is crucial to successful student outcomes and also to teacher self-efficacy. Intervention studies specifically focused on both emotional and academic outcomes are needed in order to understand effective interventions for this specific population. Finally, more qualitative research that highlights the voices of children, youth, parents, and teachers is necessary to understand their perceptions of the co-occurrence of both learning and emotional difficulties.

Implications for Practice

The present empirical investigation of the role of family factors extends theory related to the individual and ecological conditions that reflect resilience. Research used to understand person-process-context is influential when considering interventions aimed at promoting youth development. The Mental Health Commission of Canada (2017) suggested approximately 15% of youth aged 15 and older perceived themselves as having a need for mental health care within the previous 12-month period; among these about two-thirds (67%) reported having their needs met, 12% reported their needs were unmet, and the remaining 21% had needs partially met (i.e., they received some mental health care, but perceived a need for more). Moreover, youth with co-occurring diagnosis are often underserved in educational settings. Research by Wagner et al.

(2005) in the United States suggested that children's mental health problems are not adequately identified or addressed in education contexts. Many teachers feel unprepared to support the mental health difficulties of students in their classes (Whitley & Gooderham, 2016). Moreover, Whitley (2010) suggests teachers feel less confident working with students with LD and struggle to see the full potential these students. Yet, general classroom teachers are "first and foremost, responsible for the education of children and youth with LD" (Calder Stegemann, 2016, p. 58). The current research offers practical implications relevant to educators (educational assistances, teachers, administrators) and counsellors who work with families of children with LD. The school and familial influences that promote positive adaptation and serve as powerful environmental factors influencing student mental health and learning are discussed in the next sections. The results of the present research can be used to inform and develop enhanced educational interventions and counselling practices for LD youth and their families.

Educator Considerations. Youth mental health treatments are positively associated with academic outcomes and related to improved mental health (Becker, Brandt, Stephan, & Chorpita, 2014). Academic success may boost well-being and decrease symptoms of internalizing problems (Suldo, Gormley, DuPaul, & Anderson-Butcher, 2014), thus calling for interventions aimed at both academic and mental health outcomes. The overarching considerations stemming from the present research suggest that educators must take into account the coactional nature of the associations among learning factors, academic outcomes, and mental health symptoms. Pedagogical implications from these findings indicate teachers must notice and nurture positive self-beliefs in their students. From a resilience perspective, positive self-beliefs act a buffer under adverse conditions. Teachers and schools can help students develop competence in academic and other interest (such as sport) domains, as well as in personal domains (such as

confidences and self-efficacy) as they progress through school (Pajares, 2003). Successful performance (such as learning a skill, grades or marks earned, or overcoming a challenge), persuasive messages, autonomy, and interest have been found to increase self-efficacy and point to the integral role that teachers have in influencing student's self-efficacy (Bandura, 1997; Butz & Usher, 2015). Regarding the links between relationship and school factors, Duchesne and Larose (2007) found adolescents' attachment to parents was positively associated with academic motivation and this was mediated by adolescents' perceptions of support from teachers.

Study 2 results direct educators to the significance of students' beliefs in their capabilities to manage the learning environment, that is, their self-efficacy. Implications of this finding suggest that direct instruction for adolescents with LD and mental health problems should include building self-regulatory skills in addition to building self-efficacy to use such skills. These echo Klassen et al.'s (2010) findings that practitioners providing services to LD adolescents must focus not only on remediating and compensating for academic deficits, but also on building students' confidences. Students with LD often work longer hours to achieve the same grades as their non-LD peers (Lackaye et al., 2006); this effort and work should be recognized by teachers. Teachers can encourage the development of task goals to demonstrate mastery of material and to underscore the value of challenge-seeking and learning behaviours. In contrast, performance-based goals are often related to concern with demonstrating ability; holding such goals is negatively related to self-efficacy, whereas task goals are positively related (Pintrich, 2000; Sideridis, 2007). Nurturing beliefs in ability and more task-oriented goals are examples of some of the ways to positively influence youth development. Moreover, teacher-student relationships impact mental health as well as academic outcomes (McLaughlin & Clarke, 2010).

Often when educators are attempting to resolve academic, behavioural, or emotional problems of youth in their schools, there is little parent input or communication (Stormshak et al., 2016). Parents or caregivers may not be contacted by school administration until the youth's behaviour has become severe. This leaves little opportunity to discuss student strengths and development—conversations tend to be problem- or deficit-based (resulting in punitive punishments such as suspension) and offer fewer opportunities to collaborate with parents. These approaches also tend to disregard the unique context of the family, which in turn reduces the likelihood that solutions will be helpful or sustainable (Stormshak et al., 2016). Reschly and Christenson (2012) suggest that understanding of the application of ecological systems theory to educational practice has progressed, yet a true integration this framework into educational research or practice has not been accomplished on a large scale. Reschly and Christenson (2012) posit that partnerships among educators and families (operating at Bronfenbrenner's [1979] mesosystem level) are among the most compelling examples of ecological systems theory into educational practice.

Family-School Relationships. Few school educators have extensive training in how to effectively collaborate with families. McLaughlin and Clarke's (2010) comprehensive review describes the influential outcomes related to school environment and school-based relationships. However, school staff seldom receive adequate training about the influence of family factors on student outcomes or how to include families in student interventions (Stormshak et al., 2016). Schools may feel wary of “new” intervention efforts to include family, because of workload requirements and may feel burdened by attempts to integrate different programming into their daily routines. Stormshak et al. (2016) suggest “successful update of family-school partnership programs suffers, because developing positive, proactive, and collaborative relationships with

families is a potentially difficult endeavor and can seem quite distal to student achievement” (p. 37). Arguably, the most effective intervention for enhancing family-centered practices in schools may involve training the next generation of teachers in ecological theory and researching how such family partnerships are integrated into education as they land their first jobs. Family-school partnerships are successful when they integrate well with existing multi-tiered strategies already used to improve academic and developmental outcomes (Stormshak et al., 2016). Reschly and Christenson (2012) state connecting with families about aspirations, needs, and shared goals for students should not be considered elective, but necessary, to improve outcomes for all youth. The present research highlights the profound influence family context has on youth development and underscores the need for all practitioners to continue to develop ways to better communicate and involve families in children and youth’s educational experiences.

Counselling Considerations. Academic and emotional difficulties over time can potentially become more severe without effective intervention (Wagner & Davis, 2006). The results of the present research point to the importance of providing appropriate interventions to children and youth who experience emotional and academic concerns, because their outcomes are affected by the consequences of these difficulties if they persist over time. Beaver (2008) suggests a “positive approach to internalized disorders emphasizes the goal of psychological well-being rather than only the absence of symptoms” (p. 130). This perspective entails emphasis on adolescents’ strengths and supporting the development of skills associated to pleasure and engagement (Beaver, 2008). Targeted counselling on stress management, developing social skills, and friendship related-issues (e.g., developing friends and conflict resolution) for youth with LD in mental health settings and schools is needed. Students with LD experience not only academic challenges, but also social distress that has been linked to feelings of loneliness

(Feldman, Davidson, Ben-Naim, Maza, & Margalit, 2016) and depression (Kiuru et al., 2011). This calls for increased primary prevention as well as individualized approaches in schools. For example, a growing body of research has demonstrated that mindfulness training integrated into K–12 education can be effective for reducing anxiety (Beauchemin, Hutchins, & Patterson, 2008) and enhancing attentional and emotional self-regulation (Meiklejohn et al., 2012). Both elementary and high school students can benefit cognitively, socially, and psychologically through direct mindfulness training (Meiklejohn et al., 2012). Researched benefits include: improvements in working memory, academic skills, social skills emotional regulation, self-esteem, mood, and decreases in stress, anxiety, and fatigue (Meiklejohn et al., 2012). Beauchemin et al. (2008) specifically demonstrated improvements in social skills and academic performance and decreases in state and trait anxiety for youth with LD after mindfulness training. Building self-efficacy among youth with LD regarding their academic and regulatory capabilities should also be considered important targets of counselling (Muris, 2002), to reduce symptoms of anxiety and depression.

Parents benefit not only from educational but also from emotional support related to managing the added stress of parenting children with co-occurring LD and mental health problems. At the very least, parents need recommendations for where to find help (Earely, 2013). All too often, parents are not adequately supported through the referral and identification processes of their children with LD (Delany, 2017). Counsellors are encouraged to work with families to optimize parenting behaviours related to knowledge of youth daily activities. Self-efficacy interventions for parents regarding their parenting skills could serve to reduce distress. Moreover, monitoring appears to be a particularly important parenting practice that levels off during adolescence for some parents; in particular, parents with mental health challenges may

monitor their children less or perhaps adolescents avoid parental monitoring by spending less time at home and avoiding stressful situations (Van Loon et al., 2014). Assessing and strengthening quality relationships with teachers and parents has coactional implications and is an important counselling objective. Duchesne and Larose (2007) posit that adolescents with high-quality attachment to parents may be more willing to explore their social environment with confidence; this may lead them to develop more positive perceptions of support from their teachers, thus fostering academic motivation. Additional counselling foci include educating parents about positive parenting approaches, strengthening communication with teachers, and developing intrapersonal and interpersonal skills.

Closing Comments

In summary, the present research findings indicate that, for youth with LD, social and emotional competencies and parental monitoring may operate as buffering influences against mental health problems such as symptoms of anxiety and depression. This research included family perspectives because a lack of information exists about the views and experiences of families (Nalavany & Carawan, 2012). Also included were the voices of two youth with LD and their parents, describing their perspectives about daily experiences. Parents experienced stress related to both emotional and practical/academic concerns with their child. Mothers had active roles in their child's academic experiences, for example, advocating in the school systems and providing homework support; more insight into the father's perspectives is needed. Youth described feelings of low self-efficacy in social and academic domains and yet also reflected on supportive parent-child relationships. Using an MMR design, both broad patterns through Study 1 and personal experiences in Study 2 were identified. The integrated findings provide in-depth examination of factors amenable to intervention and experiences related to the co-occurrence of

LD and mental health problems among youth based on a relational developmental systems framework, which highlights the multiple levels of influences on youth development.

Evidence for the co-occurrence of academic, social, and emotional difficulties in middle adolescence was provided both qualitatively and quantitatively. The findings serve to prompt not only researchers but also practitioners, such as educators and counsellors, to continue to understand the resilience processes and ecological theory with the ultimate goal of working effectively with youth with multifaceted concerns. An important practical application is not exclusively focusing on academic difficulties, but broadening awareness to include the emotional and social implications for students and their families. Implications of this research are consistent with Calder Stegemann's (2016) recommendation that "parents and educators must be informed of the concept of learning disabilities, characteristics, and negative consequences of failing to address learning, social, and emotional needs" (p. 58). Relationships and contextual perspectives must be considered in order to adequately understand youth with LD experiences in order to be able to effectively intervene. Family experiences, youth characteristics, and educational experiences represent multiple levels of influence that affect academic and emotional outcomes, which in turn, can promote youth development. This research serves to draw increased attention to supporting not only youth with LD but also their parents, since family factors have profound influences on developmental outcomes.

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Appendix A: NLSCY Youth and Parent Measures

Behaviour Scales – Emotional Disorder – Anxiety

The behaviour scales were intended to provide indicators of the following behaviours: conduct disorder, hyperactivity, inattention, physical aggression, indirect aggression, emotional disorder, anxiety, prosocial behaviours, and behaviours related to property offense (Statistics Canada, 2008).

List of items on the emotional disorder / anxiety subscale of the behaviour scales:

1. I am unhappy or sad.
2. I am not as happy as other people my age.
3. I am too fearful or nervous.
4. I worry a lot.
5. I cry a lot.
6. I am nervous, high-strung, or tense.
7. I have trouble enjoying myself.

Emotional Quotient Youth Version (EQ-i: YV)

Developed by Bar-On and Parker (2006), the EQ-i:YV measures emotional intelligence and comprises four major dimensions. List of items related to each dimension:

Intrapersonal subscale

1. It is easy to tell people how I feel.
2. I can talk easily about my feelings.
3. I can easily describe my feelings.

Interpersonal subscale

1. I like doing things for others.
2. I feel bad when other people have their feelings hurt.
3. I know when people are upset even when they say nothing.

Adaptability subscale

1. I can understand hard questions.
2. I can come up with many ways of answering a hard question when I want to.
3. When answering hard questions, I try to think of many solutions.

Stress management subscale

1. I get angry easily.
2. I get upset easily.
3. When I get angry, I act without thinking.

My Parents and Me Scales

Developed by Lempers et al. (1989) the parenting scales are intended to complement the parenting section of the parent-reported Child Questionnaire by gathering information from children regarding their perceptions of their relationships with parents measuring parental monitoring, nurturance, and rejection (Statistics Canada, 2008)

List of items on the parental monitoring subscale of the My Parents and Me scales:

1. My parents (or step parents or foster parents or guardians) want to know exactly where I am and what I am doing.
2. My parents (or step parents or foster parents or guardians) let me go out any evening I want.
3. My parents (or step parents or foster parents or guardians) tell me what time to be home when I go out.
4. My parents (or step parents or foster parents or guardians) find out about my misbehaviour.
5. My parents (or step parents or foster parents or guardians) take an interest in where I am going and who I am with.

Family Functioning

Developed by researchers at the Chedoke-McMaster Hospital, McMaster University this scale has been used widely both in Canada and abroad (Statistics Canada, 2008) to measure relationships between family members and provide a global assessment of family functioning.

List of items from the family functioning scale:

1. Planning family activities is difficult because we misunderstand each other.
2. In times of crisis we can turn to each other for support.
3. We cannot talk to each other about sadness we feel.
4. Individuals in the family are accepted for what they are.
5. We avoid discussing our fears or concerns.
6. We express feelings to each other.
7. Making decisions is a problem for our family.
8. We are able to make decisions about how to solve problems.
9. There are lots of bad feelings in our family.
10. In our family, we feel accepted for what we are.
11. We don't get along well together.
12. We confide in each other.

Parent Depression Measure

This scale is a shorter version of the CES-D, comprising 20 questions, developed by Radloff of the Epidemiology Study Centre of the National Institute of Mental Health in the United States. Dr. Boyle of the Chedoke-McMaster Hospital, McMaster University, reduced the scale to 12 questions (Statistics Canada, 2008).

In response to the question “How often have you felt or behaved this way during the past week?” twelve item responses on the parent depression measure included:

1. I did not feel like eating, my appetite was poor.
2. I felt that I could not shake off the blues even with help from my family or friends.
3. I have trouble keeping my mind on what I am doing.
4. I felt depressed.
5. My sleep was restless.
6. I was happy.
7. I felt that everything I did was an effort.
8. I felt hopeful about the future.
9. I felt lonely.
10. I enjoyed life.
11. I had crying spells.
12. I felt that people disliked me.

Appendix B: Recruitment Poster

Research Invitation to Participate: In-Depth Case Study of the Experiences of Co- occurring LD and Anxiety: A Family Exploration

Are you interested in talking about your daily experiences related to having a learning disability and feelings of anxiety to a UVic Researcher?

The purpose of this qualitative study is:

- a. to explore how *youth experience* co-occurring LD and anxiety and how they explain this phenomenon. (For example, how do youth describe their LD and anxiety co-occurrence and its impact?)
- b. to explore *parent's perspectives* of their youth's co-occurring LD and anxiety. (For example, how does family support or parental mental health impact the youth who experiences co-occurring learning and emotional issues?)

Contact: [REDACTED]
25 [REDACTED]

Participation selection criterion:

- ◆ 14 or 15 years old youth
- ◆ youth attends school
- ◆ youth has been diagnosed with a learning disability by a professional
- ◆ youth experiences symptoms of anxiety
- ◆ parent(s) is(are) also willing to participate in this study
- ◆ parent(s) will provide supporting documentation (such as psychoeducational report and IEP)

Appendix C: Consent Forms



Department of
Educational Psychology
and Leadership Studies



Youth Consent Form

In-Depth Case Study of the Experiences of Co-occurring Learning Disabilities and Anxiety: A Family Exploration

You are being invited to participate in a study called “**Case Study of the Experiences of Co-occurring Learning Disabilities and Anxiety: A Family Exploration.**” This research is the second study in Breanna Lawrence’s doctoral dissertation. If you have any questions or concerns please contact Breanna at [REDACTED]. As a PhD student in Educational Psychology, Breanna is supervised by faculty members in her department, Dr. Gina Harrison ([REDACTED]@uvic.ca) and Dr. Anne Marshall ([REDACTED]@uvic.ca), whom you may also contact for questions or concerns related to this study.

The purpose of this qualitative study is twofold: (a) to explore how **youth experience** co-occurring LD and anxiety and how they explain this phenomenon. (For example, how do youth describe their LD and anxiety co-occurrence and its impact?) and (b) to explore **parent’s perspectives** of their youth’s co-occurring LD and anxiety. (For example, how does family support or parental mental health impact the youth who experiences co-occurring learning and emotional issues?)

You are being asked to participate in this research because you:

- a) are 14 or 15 years old
- b) attend school
- c) have been diagnosed with a learning disability by a professional
- d) experience symptoms of anxiety
- e) your parent(s) is(are) also willing to participate in this study

- f) your parent(s) will provide supporting documentation (such as psychoeducational report and IEP)

Procedures:

If you agree to voluntarily take part in this research, your participation will include at least two audio-recorded interviews with Breanna (60 to 90 minutes each). The focus of the first interview will be on your daily experiences of school and personal life with a learning disability. Breanna will ask you questions about what types of strategies and tools you have found to be helpful. There will also be questions about how your family has supported you. Your parent does not attend the initial interview. However, your parent will be asked to bring your recent psychoeducational assessment, individual education plan (IEP), and anything else you think is important to the first interview. If we find we have a lot to discuss, we may schedule an additional interview.

After your interview, in a separate interview, Breanna will ask your parent(s) to describe their ideas about how to best support a youth with a learning disability. Once the separate interviews are completed with yourself and your parent(s), Breanna will use findings from those interviews to write a “family story” that she will send to you. You may edit the story before or during the second interview.

During the last interview with you and your parent(s), Breanna will ask both you and your parent(s) about the family story and whether you have any questions about the story or about the first interview.

Risks and Benefits:

Involvement in this research involves very minimal risks in which the probability of any harms implied by participation in the research is not greater than those encounter in aspects of everyday life. You could experience some discomfort explicitly discussing emotional and psychological experiences related to learning difficulties and your experiences of anxiety. There are no substantial inconveniences for participating in this research besides collecting relevant documents and the time to travel to and participate in the interview. The potential benefits of your participation in this research include developing increased self-awareness and insight into supportive factors related to learning difficulties and anxiety. Participating in this research will also contribute to the knowledge and development of educational and counselling practices for youth and families. Your participation will provide new information on the ways in which to help young people with learning disabilities.

Compensation:

As a way to compensate you for your participation in this study, you will be given a \$15 iTunes gift certificate at the time of the first interview, and another \$15 iTunes gift certificate at the time of the second interview. If you would not participate in this research if there was no compensation you should decline because the compensation must not be coercive. If you withdraw from the study at any time, the gift certificate(s) is/are yours to keep.

Consent to Participate:

Your participation is voluntary. If you decide to participate, you may withdraw at any time, or you may refuse to answer certain questions without any explanation. If you withdraw from this study, your audio-recorded interview will be erased and confidential shredding will destroy the transcript and all field notes or data about you. If you withdraw from the study part way through you will be asked if you want the data you have contributed to be part of analysis. If you agree, your data will remain in the study and will be kept for five years, if not, your audio-recorded interview will be erased and the transcript and all field notes or data about you will be destroyed. Your data will be storage for up to five years and after that period of time will be confidentially shredded.

Confidentiality:

Your confidentiality will be protected by storing the interview and personal documents on password protected computers, in locked cabinets and by the removal of identifying information. This signed consent form will be kept in a separate, locked cabinet. To protect your anonymity, your name will not be recorded on the transcribed data. You can select a pseudonym to be used in place of your name for the final research findings. The supporting documents will be stripped of identifying information and once the data analysis is complete will be shredded immediately.

Research Results will be Disseminated in the Following Ways:

Research findings will be combined with the results of Breanna's first study and communicated with professionals (teachers, counsellors, psychologists) and academics. The results of the study will be published in peer-review journals and will be presented at professional and academic conferences. This research may be communicated through educational workshops.

Questions or Concerns:

In addition to being able to contact Breanna and her supervisors as listed above, you may also verify the ethical approval of this study, or raise any concerns you might have by contacting the Human Research Ethics Board at [REDACTED]@uvic.ca.

Your signature below indicates that you understand the above conditions of participation in this study, that you have had the opportunity to have your questions answered and that you consent to participate in this research project.

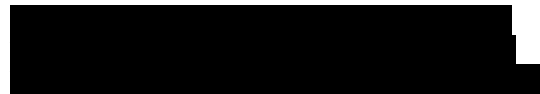
Participant Signature

Date

Participant Name (please print)



Department of
Educational Psychology
and Leadership Studies



Parent Consent Form

In-Depth Case Study of the Experiences of Co-occurring Learning Disabilities and Anxiety: A Family Exploration

You are being invited to participate in a study called “**Case Study of the Experiences of Co-occurring Learning Disabilities and Anxiety: A Family Exploration.**” This research is the second study in Breanna Lawrence’s doctoral dissertation. If you have any questions or concerns please contact Breanna at [REDACTED]. As a PhD student in Educational Psychology, Breanna is supervised by faculty members in her department, Dr. Gina Harrison [REDACTED]@uvic.ca) and Dr. Anne Marshall [REDACTED]@uvic.ca), whom you may also contact for questions or concerns related to this study.

The purpose of this qualitative study is twofold: (a) to explore how *youth experience* co-occurring LD and anxiety and how they explain this phenomenon. (For example, how do youth describe their LD and anxiety co-occurrence and its impact?) and (b) to explore *parent’s perspectives* of their youth’s co-occurring LD and anxiety. (For example, how does family support or parental mental health impact the youth who experiences co-occurring learning and emotional issues?)

You are being asked to participate in this research because you are a parent of a youth who is willing to participate in this study and you can provide supporting documents such as your child’s recent psychoeducational assessment report and Individual Education Plan. Your child is a) 14 or 15 years old, b) attends school, c) has been diagnosed with a learning disability by a professional, and d) experience symptoms of anxiety.

Procedures:

If you agree to voluntarily take part in this research, your participation will include two audio-recorded interviews with Breanna (60 to 90 minutes each). The purpose of the initial interview will focus on your ideas about how to best support a youth with a learning disability. This interview is just with the parent(s); your child will not attend at this point. We may schedule an additional interview at this stage if we have more to discuss than time allots. Once the separate

interviews are completed with yourself and your child, Breanna will use findings from those interviews to write a “family story” that she will send to you and your child. You may edit the story before or during the second interview.

During the last interview with you and your child, Breanna will ask both you and your child about the family story and whether you have any questions about the story or about the first interview.

Risks and Benefits:

Involvement in this research involves very minimal risks in which the probability of any harms implied by participation in the research is not greater than those encountered in aspects of everyday life. You could experience some discomfort explicitly discussing your personal emotional and psychological experiences related to your child’s learning difficulties and experiences of anxiety. There are no substantial inconveniences for participating in this research besides the time to travel to and participate in the interview. The potential benefits of your participation in this research include developing increased self-awareness and insight into supportive factors related to learning difficulties and anxiety. Participating in this research will also contribute to the knowledge and development of educational and counselling practices for youth and families. Your participation will provide new information on the ways in which to help young people with learning disabilities.

Compensation:

As a way to compensate you for your participation in this study, you will be given a \$15 Thrifty Foods gift certificate at the time of the first interview, and another \$15 Thrifty Foods gift certificate at the time of the second interview. If you would not participate in this research if there was no compensation you should decline because the compensation must not be coercive. If you withdraw from the study at any time, the gift certificate(s) is/are yours to keep.

Consent to Participate:

Your participation is voluntary. If you decide to participate, you may withdraw at any time, or you may refuse to answer certain questions without any explanation. If you withdraw from this study, your audio-recorded interview will be erased and confidential shredding will destroy the transcript and all field notes or data about you. If you withdraw from the study part way through you will be asked if you want the data you have contributed to be part of analysis. If you agree, your data will remain in the study and will be kept for five years, if not, your audio-recorded interview will be erased and the transcript and all field notes or data about you will be destroyed. Your data will be stored for up to five years and after that period of time will be confidentially shredded.

Confidentiality:

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information. This signed consent form will be kept in a separate, locked cabinet. To protect your anonymity, your name will not be recorded on the transcribed data. You can select a pseudonym to be used in place of your name for the final research findings. The supporting documents will be stripped of identifying information and once the data analysis is complete will be shredded immediately.

Research Results will be Disseminated in the Following Ways:

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Your signature below indicates that you understand the above conditions of participation in this study, that you have had the opportunity to have your questions answered and that you consent to participate in this research project.

Participant Signature

Date

Participant Name (please print)