‘LIT FOR LIFE’: USING LITERACY INTERVENTION TO FOSTER MEANINGFUL LIFE CHANGES FOR HIGH-RISK YOUTH WITH READING DISABILITIES

by

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A thesis submitted in conformity with the requirements for the degree of Doctor of Philosophy
Department of Applied Psychology and Human Development
Ontario Institute for Studies in Education of the University of Toronto

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Abstract

Substantial evidence indicates that maltreatment places abused children at great risk for illiteracy and damaging self-perceptions of competency and worth. Given that academic ability and self-concept are reciprocally related and mutually reinforcing, it was hypothesized that participation in an intensive literacy intervention would positively impact the reading, writing, and related self-perceptions of maltreated Struggling Readers from the Ontario Child-Welfare system. Using a mixed methods approach, 24 participants (ages 14-24) completed achievement and self-perception measures and were interviewed about their literacy experiences and views, pre and post intervention. Repeated measures analyses and pairwise comparisons measured the impact of intervention on the literacy skills and related self-evaluations of these youth and assessed how the literacy skills and related self-evaluations differed from maltreated youth without reading difficulties (n = 22). Interviews were analyzed thematically. Results converged to provide empirical support for the benefits of literacy intervention on skill and self-perception development for this high risk group of youth. Qualitative analyses further revealed unanticipated, dramatic and meaningful life changes. Participants manifested improved communication and metacognitive skills, increased autonomy and internal motivation, and amplified feelings of empowerment and hope for the future.
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Introduction

This thesis was designed to explore the impact of a 7-week intensive remedial literacy intervention on the reading and writing skills and related self-perceptions of adolescent and young adult Struggling Readers from the Ontario Child Welfare System. Multiple studies suggest that adversity places these youth at significantly more risk than their non-maltreated peers for sustaining poor literacy skills and damaging self-perceptions\(^1\) of competency and worth (Mitic & Rimer, 2002; Perez & Spatz Widom, 1994; Trocmé & Caunce, 1993; Simmons & Weinman, 1991; Vondra, Barnett & Cicchetti, 1990). Ensuing consequences have been linked to a myriad of developmental and social-emotional difficulties including school failure and dropout, unemployment, depression, anxiety, violence and criminal activity (Beitchman, Wilson, Douglas, Young & Adalf, 2001).

Some studies suggest that improving teachable skills, such as reading and writing, can have positive implications for an individual’s future in other domains (Gilligan, 2000; McGloin & Widom, 2001). This is based on the belief that academic ability and self-concept are reciprocally related and mutually reinforcing (Marsh, Trautwein, Ludtke, Koller & Baumert, 2005). In view of the potential benefits of domain specific interventions on harmful cognitive and developmental outcomes, the main objective of this research was to try to change the course of discouraging trajectories by targeting negative consequences through literacy intervention. Specifically, the present study examined whether receiving intensive reading and writing remediation would positively impact essential literacy skills and related self-systems, creating meaningful changes in the lives of maltreated youth with reading difficulties.

\(^1\) Self-perception refers to the knowledge, views, and beliefs that individuals hold about themselves (Chapman & Tunmer, 2003).
Much of the current research on abuse and neglect, and the associated low literacy skills and negative self-perceptions has concentrated on children, with little attention being directed to the study of maltreated adolescents and young adults, and particularly those with reading difficulties (Kinard, 2001). Several researchers have discussed the need for advances in the area of treatment and intervention for these youth (Chapman & Tunmer, 2003; Paz, Jones & Byrne, 2005). Given the limited empirical literature in this area of study, there is also an apparent need for further exploration of appropriate and effective interventions for vulnerable populations (Barnett, Vondra & Shonk, 1996; House, 2003; Maughan, Rowe, Loeber & Stouthamer-Loeber, 2003). The scarcity of information on intervention outcomes for abused and neglected older youth is regrettable because of the known harmful sequelae associated with maltreatment. Thus, an additional purpose of this thesis was to expand the current literature by focusing on older victims of maltreatment who struggle with reading.

The exploration of this area of study is vital for determining effective academic interventions for maltreated youth and for examining treatment impacts on social-emotional and academic well-being. Thus research in this area is ground breaking and has the potential to critically influence positive changes in programming for high risk youth.

Finally, through the implementation of a mixed methods approach, the current study aimed to provide a more robust analysis of the trends and details of the literacy profiles of youth-in-care than can be explored by quantitative or qualitative studies alone. By employing quantitative methodologies, the present study examined whether or not receiving literacy intervention helped enhance related skills and self-views of these youth. Furthermore, in applying qualitative methods of study, a deeper understanding and exploration into the perceptions of maltreated Struggling Readers, both prior to and following intervention, became possible. Overall the mixed methods approach allowed for a
thorough and comprehensive analysis of the functioning, well-being and experiences of youth-in-care Struggling Readers.
Literature Review

This literature review is presented in two major sections. The first section provides background knowledge on the population of maltreated youth in Canada. It provides a context for and understanding of the history, prevalence and nature of maltreatment and the pervasive effects of early abuse on adolescent development. Section two presents research on strategies for overcoming the effects of adversity, with a particular emphasis on fostering positive life changes through improved reading and writing achievement. This section begins with a rationale for using interventions aimed at improving changeable skills such as literacy. It is followed by an examination of the extensive literature-base on reading acquisition and the principles of effective reading instruction and extends into a scholarly review of writing processes and best-practices. The last part of this section brings together the research on reading and writing achievement and constructive self-development. It presents a body of empirical studies that suggest that domain-specific interventions, such as those in the area of reading and writing, can positively impact skill and maladaptive psychosocial functioning. The literature review ends with an overview of the present study’s objectives and research questions.

Child Maltreatment

The history of childhood is a nightmare from which we have only recently begun to awake. The further back in history one goes, the lower the level of child care and the more likely children are to be killed, abandoned, beaten, terrorized and abused (De Mause, 1974).

Maltreatment of children is not a new issue for society or one that is confined to a particular country, economy or culture. Ancient history is wrought with evidence of child
cruelty and infanticide (intentional killing of a child as accepted by society) as condoned practices for dealing with and disposing of “unfit” children. As late as 19\textsuperscript{th} century Europe, children were viewed as property of their parents and as having few, if any, rights. Historically, political and religious organizations did not interfere in cases involving child maltreatment.

Early American history as well indicates that up until the late 1800’s no laws existed to protect children from abuse. In 1874, Henry Berg, the founder of the Society for the Prevention of Cruelty to Animals, brought to light the dreadful situation of an 8 year old girl who had been found chained, beaten and starved. Berg’s work was instrumental in the formation of the New York Society for the Prevention of Cruelty to Children and in the subsequent formation of other societies in the U.S. By 1900, many societies devoted to protecting children from cruelty had been established. (www.naccchildlaw.org/?ChildMaltreatment).

Unfortunately children continued to be abused and many non-accidental incidents were being treated in hospitals and clinics. American physician, C. Henry Kempe, and his colleagues began studying these incidents and soon coined the term “battered child syndrome” in a seminal article describing and referencing the reality that significant numbers of parents and guardians batter their children, even to death. The article marked the development of ‘child abuse’; leading to a significant awareness of the problem. The study sparked widespread response and by 1970 reporting laws of suspected abuse were put in place across all 50 U.S. states. Within a span of 10 years, it became evident that not only physical abuse was a problem but that sexual abuse was also a major concern. Out of this awareness came federal legislation in 1974 – the purpose of which was to assure the development by states of programs and services for abused children and their families. Four
main categories of abuse and neglect were identified although the exact definition of these types was a task left explicitly to the states and thus vary from locale to locale.

It has only been over the past 40 years that maltreatment has been the subject of clinical and scientific inquiry and over the last decade that systematic attempts have been made to develop a universally accepted taxonomy. Child maltreatment is now recognized as a major public health issue and world-wide concern. In 1999, the WHO Consultation on Child Abuse Prevention drafted the following definition:

Child abuse or maltreatment constitutes all forms of physical and/or emotional ill-treatment, sexual abuse, neglect or negligent treatment or commercial or other exploitation, resulting in actual or potential harm to the child’s health, survival, development or dignity in the context of a relationship of personality, trust or power.

In spite of the variations in definitions of child maltreatment, it is widely agreed that maltreatment of children, be it physical, emotional, or sexual in nature, is directly associated with devastating results (Thompson & Whimper, 2010).

In 1998, Canada undertook its first nation-wide study to examine the incidence rates of child maltreatment in Canada. Since then, three additional nation-wide cycles of monitoring have been conducted with the most recent in 2008, as child maltreatment is becoming more and more of grave importance to health practitioners (Paz et al., 2005), policy makers and service providers (Trocmé, Tourigny, MacLaurin, & Fallon, 2003) due to the influence maltreatment has on one’s life course (Paz et al.).

Today, 1 in every 2 Ontarians is aware of a child who has been victimized by maltreatment of some kind (Ontario Association of Children’s Aid Societies, 2011). Conservative estimates from the Canadian Incidence Study of Reported Child Abuse & Neglect suggest that approximately 4% or 39.16 out of every 1000 children across Canada
were reported to the child welfare system due to allegations of childhood victimization (Public Health Agency of Canada, 2008), a significant increase from 2% in 1998 (Trocmé et al., 2001). Exposure to some form of physical abuse, sexual abuse, emotional maltreatment and/or neglect is the primary reason for children coming into state-care (See Appendix A: Categories of Maltreatment). Of the examined cases, exposure to intimate partner violence, neglect and physical abuse accounted for the majority of the investigations (34%, 34% and 20% respectively) while emotional maltreatment accounted for 9% and sexual abuse for 3%. However, it is still widely understood that official reports gravely underestimate the scope and prevalence of child maltreatment (MacMillan, 2004), as most cases go unreported.

The Effects of Early Abuse on Development

“As a major environmental risk factor, child maltreatment spreads its impact both directly and indirectly on one’s personal, physical, social and psychological development” (Paz et al., 2005, p. 411).

Research indicates that child maltreatment has profound and long lasting effects on a child’s development and may negatively impact subsequent brain growth (Mills et al., 2011). In fact, developmental traumatology theory purports that maltreated youth have a higher propensity toward impairment in developmental domains, resulting possibly from the traumatic stressor of abuse which initiates the production of corticotropin releasing stress hormones that can adversely affect brain development and coping mechanisms (Cicchetti & Walker, 2001; Paz et al.). Stress hormones can have a toxic effect on the young brain, creating decreases in neurogenesis, underproduction of synaptic connections and overproduction of pruning and myelination. The neurobiological consequences of which may induce
hyperactivity and sensitization of the Central Nervous System (Anda et al., 2006; Brittain, 2006; Caffo, Strik Lievers & Forresi, 2006; Siegel, 1999).

Several studies extend this view and suggest that brain cell development may be inhibited due to the lack of environmental stimulation which is also critical to the formation of synaptic connections, thus causing further neurodevelopmental abnormalities to occur (Lowenthal, 2001; Perry, 2002). Studies of anatomical brain development in maltreated children have identified significant structural and functional changes in the brain, including decreased size of the corpus callosum, attenuated development of the left neocortex, hippocampus and amygdala, enhanced electrical irritability in limbic structures, decreased functional activity of the cerebellar vermis and reduced intracranial and cerebral volumes, placing them at significantly higher risk than their non-maltreated peers for neurocognitive deficits (Brittain, 2006; Caffo, Strik Lievers & Forresi, 2006). Additionally, Wolfe and McGee (1991) suggest that abused and neglected children display socialization maladjustments that may be the result of disruptions or deviations in the learning opportunities for appropriate behaviour during childhood. Thus, the deterministic nature of maltreatment necessitates that practitioners, researchers, policy makers and key stakeholders consider the critical risks of psychopathology associated with maltreatment.

Multiple studies suggest that victims of maltreatment are at a much greater risk than their non-maltreated peers for developing a myriad of negative outcomes (Mills et al., 2011). Adverse childhood experiences have been associated with poorer overall health outcomes including increased risk for lung disease, arthritic disorders, cardiovascular disease, peptic ulcers, diabetes and autoimmune disorders (Banaschewski, 2011; Goodwin & Stein, 2004; Perrin, 2000). Adult survivors of abuse typically require more medical consultations and
surgeries and have an increased risk of having one or more chronic pain syndromes than their non-maltreated peers (Brittain, 2006; Caffo, Strik Lievers & Forresi, 2006).

Additionally, developmental research suggests that maltreated youth are more likely than their non-maltreated peers to develop psychiatric disorders such as depression, anxiety, affective disorders, antisocial and conduct disorders, panic disorder, and post-traumatic stress disorder (Andrews, Corry, Slade, Issakidis & Swanston, 2004; Banaschewski, 2011; Foley et al., 2004; Spataro, Mullen, Burgess, Wells & Moss, 2004; Vanderstaay, 2006; Wekerle et al., 2006). Studies show a consistent relationship between maltreatment and adolescent delinquency, impulsivity and aggression, substance use and abuse and maladaptive peer relationships (Trickett, Negrif, Ji & Peckins, 2011). Childhood histories of abuse have also been connected to suicidal ideation and attempts (Andrews et al.; Martin, Bergen, Richardson, Roeger & Allison, 2004), revictimization, early pregnancy, abusive dating relationships and risky sexual practices (Wekerle et al.).

It is not surprising then that the effects of early abuse have also been associated with serious disturbances of positive self-evaluations in adolescence (Barnett et al., 1996; Carr, 2006; Harter, 1999; Thompson & Whimper, 2010). Children experiencing serious forms of maltreatment and abuse describe themselves more negatively, report greater feelings of inadequacy and incompetence, manifest lower levels of self-esteem and report these negative self-evaluations as both domain specific (e.g., academic competence, job competence, peer likeability) and global in nature (Harter). This is especially concerning given the belief that self-efficacy, or the confidence one has to perform a task, is one of the most powerful perceptions that predict performance (Bandura, 1986; Jinks & Lorsbach, 2003).

Research into the educational experiences of maltreated children has left little doubt that early adverse circumstances are associated with significant educational and cognitive
disadvantage (Brittain, 2006; Caffo, Strik Lievers & Forresi, 2006; Carr, 2006; Mills et al., 2011; Mittic & Rimer, 2002; Perez & Spatz Widom, 1994; Richards & Wadsworth, 2004). As Vacca (2008) suggests, maltreated children are one of the most educationally vulnerable populations in our schools; however, their education is often overlooked. Maltreated children are much more likely than children without histories of maltreatment to suffer from academic failure, to access special education resources, to drop out of school and to be unemployed (Barnett, 1997; Eckendrode, Laird & Doris, 1993; Mittic & Rimer; Trocmé & Caunce, 1993; Vondra, Barnett & Cicchetti, 1990; Slade & Wissow, 2007). More specifically, numerous studies have shown that maltreated children experience language delays (Eigsty & Cicchetti, 2004) and have lower reading skills than their non-maltreated peers (Barnett et al., 1996; Kurtz, Gaudin, Wodarski & Howing, 1993; Leiter & Johnsen, 1994; Mills et al.; Oates, Peacock & Forrest, 1984). These differences still exist when a range of potentially modifying variables such as family income and parental education levels are statistically controlled (Barnett et al.; Eckenrode et al.; Kurtz et al.; Mills et al.). The impact of poor reading skill has been touted as one of the most important long-term outcomes among the various academic outcomes associated with child adversity (Thompson & Whimper, 2010), as research in education stresses the importance of reading ability for future life success (OECD, Statistics Canada, 2011).

**A Double Edge Sword: Maltreatment & Illiteracy**

As outlined above, early psychosocial adversities have long been recognized as important risk factors for developmental problems throughout life and these factors in turn can have far-reaching and long-lasting influences on more distal child outcomes.
There is little doubt that the adverse effects associated with maltreatment, including low literacy skills, are indeed alarming, severe, pervasive and long-lasting. Like maltreatment, illiteracy has been found to have profound implications for life outcomes in many domains. Adults with low literacy skills have higher rates of depression (Maughan, 1994), suicidal ideation and views of hopelessness (Harter, 1999). They statistically experience behavior problems, higher dropout rates from high school, and more and longer periods of unemployment (IALSS, 2005; Kamil et al., 2008; Johnson & Beitchman, 2010; OECD, Statistics Canada, 2011; Perrin, 2000). Furthermore, several studies link adolescent/adult illiteracy to increases in substance use and abuse, violence and delinquency, psychiatric disorders (Beitchman, Wilson, Douglas, Young & Adlaf, 2001; Vanderstaay, 2006), and poorer overall health outcomes and health-related behaviours (IALSS, 2005; Perrin, 2000; Sentell & Halpin, 2006). The consequences of poor reading and writing skills not only threaten the well-being of the individual, but have equally grave social and financial costs to society at-large (Graham & Hebert, 2010). As such, the larger mandate for the field and for society is to develop our skills in understanding and treating these adversities, and ultimately to prevent their occurrence. Appropriate interventions that will significantly address problems and be effective in altering the negative path of life for maltreated youth need to be determined (Mills et al., 2011).

**Strategies for Overcoming the Effects of Adversity**

*Abuse is typically not the result of any single factor. Rather, abuse occurs when there is an accumulation of risk factors that outweigh the beneficial influence of protective factors present in the case (Carr, 2006, p. 908).*
Factors that influence a child’s progress toward a positive life state need to be understood if we are to alleviate the harmful effects of maltreatment (Schultz, Tharp-Taylor, Haviland, & Jaycox, 2009). It has long been established that intervention best operates at multiple levels of influence, stemming from the community and family, as well as from the individual (Bronfenbrenner, 1977). In many abuse situations, intervention aims at minimizing environmental disruptions, promoting individual development, and providing the child with a safe environment which fosters opportunity to sustain relationships with parents. Intervention must not place the child at further risk (Carr, 2006).

True to this approach, much of maltreatment literature places emphasis first on engaging families in treatment by establishing community supports and focusing intervention approaches on parent-child interaction (e.g., positive exchanges in the home), parental growth and development (e.g., parenting skill and knowledge of child development), and/or marital intervention (e.g., conflict resolution, communication and problem-solving training). While community and family intervention are often necessary and beneficial, there are occasions when foster care is a more positive situation for the child. The child’s best interest and wellbeing should always be the focus of intervention (Carr, 2006).

On any given day in Ontario, there are approximately 17,000 children in care, with 50 percent of these children being permanent wards of the Crown (Ontario Association of Children’s Aid Societies, 2011). That said, emphasis should be placed on protecting the individual child and developing and promoting interventions that centre on the individual’s growth and development. Individual differences among children potentially dictate variations in intervention outcomes. To minimize negative outcomes, interventions that increase protective factors might show some significant positive results for victims of maltreatment (Schultz, Tharp-Taylor, Haviland, & Jaycox, 2009). Protective factors are
variables that have a buffering effect on deleterious outcomes; helping individuals display positive adjustment despite experiences of significant adversity or trauma (Luthar & Cicchetti, 2000). Criminological and health-science research have started to make the shift from risk-focused research to identifying protective factors for children (Vanderstaay, 2006). Research has revealed that protective factors “shield children from risk at key turning points in their lives and may alter a child’s life chances in extraordinary ways” (p. 332).

Research by Gilligan (2000) on the negative effects of multiple adversities (e.g., poverty, neglect, domestic violence, and educational failure) has highlighted how removing one stressor can be protective and have a considerable and decisive impact on the development of children facing these unfavourable circumstances. Though the research highlighting specific protective factors for maltreated youth is limited, some research has shown academic achievement as a possible safeguard, especially for adolescents and young adults (Gilligan; McGloin & Widom, 2001; Luthar & Cicchetti). For example, influenced by research on the role of schooling in mediating risk, Zingraff, Leiter, Johnson and Myers (1994) examined protective factors likely to improve the relationship between child maltreatment and teenage delinquency. Findings pointed to the power of school based processes in mediating larger patterns of risk – doing well in school significantly reduced the predictive value of early abuse on later delinquent acts.

Gilligan advocates for improving academic performance through the use of interventions that aim to relieve domain specific negative factors to help protect against undesirable outcomes for children. Therefore, interventions aimed at improving changeable skills, such as reading and writing, should prove to be positive for high-risk populations. Carr (2006) further supports this view suggesting that adopting a developmental psychopathology perspective that focuses on improving cognitive and language-based skills, as well as self-
evaluations, may help modify the effects of risk in a positive direction for older children with histories of abuse.

With this in mind, cognitive strategy training to treat and improve cognitive impairments is eliciting great interest. Its use of best clinical practices and focus on the ability for the brain to change are promising. Improved, new learning and rich environments are proving to be positive in promoting change (Stuss, 2011). In fact, following intervention, neuroimaging studies in children with difficulties in learning to read revealed increased activation or normalization in the left temporal-parietal and frontal regions of the brain that typically show reduced activation in dyslexia for phonological processing of visually presented letters, words, or sentences (Castles, McLean & McArthur, 2010; Gabrieli, 2009). The apparent changes suggest that interventions aimed at individual level ‘protective factors’ such as improved literacy skills, might be beneficial in developing standards of best practices that promote competence and wellbeing and move beyond mere prevention of harm (Simos, Fletcher, Sarkari, Billingsley & Denton, 2007; Yates & Wekerle, 2009).

Improving Reading Achievement

The ability to read, and in particular to read well, is traditionally the criterion for students’ future academic success and is the foundational skill for most courses of study in school (Perfetti & Curtis, 1986). For the purposes of this study, “reading is defined as the ability to fluently and accurately identify individual words” (Chong, 2006, p. 27). For those students who struggle with reading, school is often a difficult challenge. Many poor readers typically have deficits in several cognitive processes associated with learning; these cognitive processes often include difficulties in phonological processing, rapid automatized naming,
short-term and working memory for auditory information and language processing (Chapman & Tunmer, 2003; Corcos & Willows, 2009; Chong; Geva & Siegel, 2000; Wolf & Bowers, 1999).

Research has indicated that, of the cognitive processes named, phonological processing problems are almost always linked to reading failure. This view has been supported by numerous studies which have utilized various strategies to measure phonological awareness in order to separate groups of normal readers from groups of struggling ones and in longitudinal explorations which have shown that young children who lack phonological awareness skills have later difficulties identifying individual words in text (Chapman & Tunmer, 2003; Elbro, Borstrom & Petersen, 1998; Gottardo, Stanovich, & Siegel, 1996; Perfetti & Curtis, 1986; Stanovich, 1988; Wagner & Torgesen, 1987). Thus, of all reading strategies employed, including syntax clues, semantics, and pragmatic awareness, the most critical for children is to be able to utilize ‘word-level cues’ in order to read new words (Chapman & Tunmer; Perfetti & Curtis).

Unless effective reading intervention occurs, a child who has difficulty learning to read will most likely continue to experience problems with reading throughout school. Likewise, reviews of adults who struggle with reading indicate that poor phonological skills persist from childhood and present themselves in adulthood as a lack of word identification skills and fluency (Chapman & Tunmer, 2000; Spear-Swerling & Sternberg, 1996; Stanovich, 2000).

A great deal of knowledge has been gained with regard to best practices and sound pedagogy for reading skill development for all learners: those normally developing, at-risk and struggling. Acknowledging the role of phonological awareness in the formation of good reading skills, many remedial reading approaches have been devised to respond to the
negative impact of poor phonological processing skills and their direct effect on reading
difficulties (Lovett, Lacerenza, & Borden, 2000; National Reading Panel, 2000).
Conclusions from the report of the National Reading Panel suggest that children learn to read
best when given explicit instruction in phonological awareness skills (breaking apart and
manipulating sounds in spoken words) and with an approach that includes: teaching of
systematic phonics instruction (planned sequence of phonics elements); guided oral reading
sessions; and the application of strategies to guide reading comprehension. Research has
shown that phonological awareness instruction has increased phonemic awareness skills as
well as improved reading and spelling in children (National Reading Panel).

A meta-analysis of 52 reading intervention studies conducted by the National
Reading Panel (2000) found that phonological awareness training had its largest effects on
reading when it was taught in small groups, took place over a period of 5 to 18 hours,
included focused teaching of 1 to 2 skills rather than a multitude of skills and incorporated
letters into the training. Research has shown that following phonological awareness training,
the positive effects remained and were far reaching, benefiting normally developing, at-risk
and Struggling Readers, English as a Second Language learners and students from a variety
of socio-economic backgrounds (National Reading Panel).

There are many empirically supported reading programs available to help Struggling
Readers improve their reading skills. Of particular interest to this study is the Phonological
and Strategy Training (PHAST) Program (Lovett, Lacerenza & Borden, 2000) (See
Appendix B: Reading Intervention Program Description). The PHAST program was
designed by teachers and researchers of the Learning Disabilities Research Program at The
Hospital for Sick Children and directly teaches phonological awareness skills and word
identification strategies for reading new words. Using an integrated developmental
sequence, the PHAST program attempts to break down core hurdles to word identification learning by combining direct instruction and dialogue-based metacognitive training over a continuum of 70 hours of explicit instruction. Five word identification strategies are introduced and applied to text-reading activities, providing the reader with the opportunity to flexibly approach new words and evaluate the success of their application. Following the superior framework of multicomponent interventions that combine direction instruction and strategy-based instruction (Swanson, Hoskyn, & Lee, 1999), the PHAST program has proven to be effective for child and adolescent Struggling Readers in Canada and the United States (Lovett, Lacerenza, Murphy, Steinback, De Palma & Frijters, 2005).

Chong (2006) adapted the PHAST program, along with another commercially available reading program, to create a 35-hour reading intervention program for a group of severely-reading impaired maltreated adolescents and young adults from the Ontario Child Welfare System. Results from her study indicated that maltreated youth completing either the PHAST or Academy of READING® programs made significant gains in reading and reading-related skills as compared to a wait-list control group and that these gains did not differ significantly between programs. The focus of Chong’s research was on examining gains in reading achievement as a result of the type of reading intervention. Chong’s visionary study took the first steps in the right direction towards addressing the literacy needs of an often overlook and understudied population and presenting problem. However, this study did not account for the often neglected relationship between poor reading and, typically accompanying, poor writing skill. At present, no studies have systematically examined whether improving reading, along with the devastating stressor of underdeveloped writing skill, could lead to significant literacy achievement and meaningful life changes (i.e.,
increased views of competence and control, actions for self-improvement) for this group of maltreated youth-in-care.

**Improving Writing Achievement**

“Writing is not an option for young people, it is a necessity” (Graham & Perin, 2007).

Like reading, writing is becoming increasingly recognized as a basic requirement for participation in today’s society and as a predictor of academic success. Yet, for a large number of adolescents in the United States and Canada, writing performance remains significantly below the levels needed for success in post-secondary education and workplace settings (Mason & Graham, 2008). Results from reports such as the National Commission on Writing (2003, 2004, 2005) and the 2007 National Assessment of Education Program (NAEP) have shown that the literacy skills of older students in general have not kept pace with the increasing demands of today’s information age (Kamil et al., 2008). Low achieving writers “produce compositions that are shorter, less coherent and simply not as effective in communicating a message when compared to good writers” (Mason & Graham, p. 103). Yet, writing intervention research, especially for low achieving writers, remains less established than other academic domains such as reading. Societal demands and the success of our young people necessitate, however, that literacy practices of today place us on the ‘write’ track.

Though scarce in number, compelling studies on adolescent writing have begun to emerge and have provided a springboard for thinking about how to improve adolescent writing, particularly for adolescent Struggling Readers. Research is accumulating that
children and adults with reading difficulties are likely to have significant problems in writing that require assessment and instructional attention (Berninger, Nielsen, Abbott, Wijsman & Raskind, 2008). In fact, an increasing number of studies are showing that the difficulties that normally achieving adolescents demonstrate in their writing are intensified for students with learning disabilities (Mason & Graham, 2008). As well, for those who struggle specifically with reading, there are as many indicators of writing problems as there are of reading problems when these readers are assessed. Additionally, it has been noted that these problems persist into adulthood (Berninger et al.).

Many poor writers typically have deficits in several cognitive processes associated with learning. Several studies have identified difficulties in orthographic coding, phonological coding, and vocabulary knowledge as strong predictors of poor handwriting, spelling and compositional fluency respectively. Further, higher level thinking skills such as planning, translating and reviewing/revising have long been touted as the most influential processes involved in skilled writing (Berninger, 2009; Hayes & Flower, 1980). For intermediate grade writers, metacognitive understanding is positively correlated to planning and revising skills (Berninger). It is not surprising then that writing deficits of adolescents with and without learning disabilities are attributed to limited knowledge about the writing process, difficulties with idea generation, little or no planning or revising, and problems with the mechanics of writing (Berninger, 2009; Mason & Graham, 2008). In fact, functional magnetic resonance imaging (fMRI) studies have shown differences in brain region activation between good and poor writers during writing related tasks, such as idea generation, in areas responsible for cognitive, metacognitive, language and working memory function (Berninger, 2009). These and on-going studies are extending our knowledge of how the writing brain works and have theoretical and practical implications.
Specialized instruction targeted at these identified cognitive processes has shown to be effective in improving the writing skills of adolescents in general, and in particular for those with dyslexia (Berninger et al., 2008). Acknowledging the role of multiple components in the formation of good writing skills, studies suggest that children learn to write best when combining process writing with more explicit instructional approaches such as in spelling, including an awareness and coordination of phonological, orthographic and morphological word forms and their parts and composition (Berninger, 2009; Graham & Perin, 2007). This approach to writing instruction has even been shown to strengthen student reading skills (Graham & Hebert, 2010).

A meta-analysis of writing intervention studies conducted by the Graham and Perin for the Writing Next Report on effective strategies to improve the writing of adolescents (2007) specifically highlights 11 key elements of process and strategy-based instruction, including teaching planning, revising and editing strategies, identifying specific product goals, and practicing sentence combining. Unlike reading which emphasizes phonological awareness training as yielding the largest effects on reading achievement, no single approach to writing instruction has been identified as meeting the needs of all students. Rather, each instructional element is uniquely its own, though often related and interlinked to its counterparts. Research has shown that following writing training in each of these elements, positive effects remained (Graham & Perin).

Empirically supported writing approaches are starting to surface to help struggling writers improve their writing skills. Of particular interest to this study is the Self-Regulated Strategy Development (SRSD) approach identified by Graham and Harris (2006). SRSD instruction, which typically includes strategies for improving planning, revising and editing skills, has been used as a tool for teaching writing strategies to adolescent students with LD
with consistent success. The SRSD approach provides a framework for teaching students how to use strategies, such as POWER writing (Plan, Organize, Write, Edit, Rewrite), Spelling through Morphographs® and Handwriting Without Tears®, and how to self-regulate performance throughout the writing process. Using an integrated developmental sequence, SRSD combines direct and strategy instruction and dialogue-based metacognitive training over a continuum of intensive remediation classes (See Appendix C: Writing Intervention Program Description). Like the PHAST reading program, it follows the superior framework of multicomponent interventions (Swanson, Hoskyn, & Lee, 1999), and has proven to be effective for child and adolescent struggling writers in Canada and the United States (Mason & Graham, 2008).

Even with increasing attention to the writing crisis that we as a society are facing, there is no doubt that the writing problems of children with reading difficulties, and of our more at-risk youth populations, remain under-identified and undertreated. A recent meta-analysis by Graham and Herbert (2010) indicated that fewer than 25% of writing intervention research focused on improving the needs of our most vulnerable students. Furthermore, no known studies have attempted to address the writing problems of maltreated youth. There is a special need to investigate ways to create meaningful change for the good of these youth, which in turn should resonate for all.

Creating Meaningful Life Change Through Literacy Intervention

In an age overwhelmed by information, the ability to read and write can be seen as tantamount to survival skills (Graham & Hebert, 2010). Our challenge is to provide our youth with access to information and knowledge, and thus to power - power of enlightenment, self-improvement, self-assertion – power over their own lives and the ability
to thrive and succeed. Research on achievement and self-systems helps to answer some of the questions around why educational development as a protective factor may ameliorate risk and bring about positive change for a group of our most vulnerable youth.

Improving literacy skills at the most basic level should have positive impact on skill development. Integrated instruction in writing and reading has proven to increase children’s performance on high stake tests, improve the writing and reading skills of students with diagnosed learning disabilities (Berninger, 2009), and help individuals better traverse societal demands (Graham & Perrin, 2008). Instruction in each domain naturally influences and ideally advances its own; it should also have a related positive impact on the other. For example, effective writing instruction should not only improve writing skill but should also enhance a student’s ability to read text accurately, fluently and with comprehension (Graham & Hebert, 2010) creating a rippling effect towards meaningful transformation of skill.

Further, learning to read has been shown to have a profound effect on the formation of both academic and related self-concepts (Barnett et al., 1996; Chapman & Tunmer, 2003; Pressley, 1998; Spear-Swerling & Sternberg, 1996; Stanovich, 1986). Research suggests that how we feel about ourselves is a direct reflection of situation-specific experiences; these views and experiences in turn motivate our behaviour and ensuing success (Jinks & Lorsbach, 2003). Chapman and Tunmer (2003) found that “relations between reading performance levels and reading self-perceptions were reasonably strong among adolescents and young adults… and that those who performed poorly on measures of literacy also tended to have negative reading-related self-perceptions” (p. 5). Nicholson (2000) also states that early difficulties with reading persist into high school and are strongly related to negative self-evaluations, both reading-related and otherwise. Likewise, negative academic self-perceptions in children have been linked to poorer phonological processing outcomes,
particularly in the areas of word recognition, letter-sound knowledge and reading comprehension. These children were also more negative toward the reading experience and felt less confident about their abilities than those with positive academic self-concepts (Byrne, 1996; Chapman & Tunmer). Ample evidence suggests that poor reading skills and poor self-concept are a prescription for negative cognitive and developmental outcomes. Thus, altering even just one of these stressors through literacy intervention may provide the means and motivation for changing the course of negative trajectories.

Though it can be difficult to correct the destructive path that the ‘cascades’ of negative experiences promote on academic success, personal drive and behaviour (Stanovich, 1986), research by Chapman and Tunmer (2003) and others before them suggest that improving reading abilities can indeed help to relieve some of the negative effects of poor reading skills (Adams & Bruck, 1993; Ehri, 1991, 1992; Perfetti, 1992; Stanovich, 1991). In keeping with this notion, skills theorists argue that attitudes about the self are consequences of successful achievement. Thus pedagogical efforts should be directed toward enhancing specific skills in an effort to enhance perceptions and ensuing behaviour (Chapman & Tunmer, 2003; Harter, 1999). The tendency among self-enhancement theorists has also shifted towards the support of targeted domain specific skill learning in efforts to foster positive self-evaluations (Harter, 1999). Hattie (1992) concluded that cognitively based programs are consistently and significantly more effective than affectively based programs, as they target smaller, more definable goals. Hattie and Marsh (1996) add to this perspective noting that interventions directed at impacting particular domains and those at the domain-specific level will be the most successful.

Research by Marsh, Trautwein, Ludtke, Koller and Baumert (2005) additionally suggest that improving domain-specific skills will not only improve domain-specific self-
perceptions but that the relationship will have ‘reciprocal effects’. They argue that “academic achievement and academic self-concept are reciprocally related and mutually reinforcing” (p. 413). Thus, the possibility of transforming self-perceptions and related self-views through literacy skill development may benefit learners two-fold and extend to better their overall life challenges. Research exploring the positive effects of domain specific interventions on detrimental cognitive and developmental risks becomes critical.

Very few methodologically-sound studies have investigated the protective effects of literacy intervention on negative consequences for Struggling Readers within the maltreated population (Hildyard & Wolfe, 2002), or for struggling young adult readers in general (Gottardo, Siegel & Stanovich, 1997; Venezky & Sabitini, 2002). Preliminary results from a previously piloted reading intervention program conducted by the author for maltreated youth Struggling Readers were both positive and significant. Findings pointed to the potential application of literacy intervention as a means to academic and social-emotional improvements, as reading skill improved and reading-related self-perceptions were enhanced (Chong; 2006; Regina, 2007). These results need to be confirmed and several new questions relating to a more balanced approach to literacy and life change need to be addressed.

**Current Research Objectives**

Given that good literacy skills appear to protect against undesirable outcomes (Gilligan 2000; Stuart, Hill, Male & Radford, 2001), the primary objective of the current study was to examine and better understand the impact of participating in an intensive, balanced literacy program on the lives of maltreated adolescent and young adult Struggling Readers from the Ontario child-welfare system.
There have been remarkably few evaluations of treatment outcomes in child abuse work (Paz et al., 2005), or research directly assessing child-welfare involved youth for that matter (Wekerle et al., 2006). Of the investigations conducted, few concentrated on older maltreated youth, and particularly those with reading difficulties (Kinard, 2001). Rather, investigations of maltreated populations have focused on childhood effects to the relative exclusion of longer-term, prospective studies with adolescent and older populations (Yates & Wekerle, 2009). This is of utmost concern since 40% of Ontario’s children-in-care are between 13-17 years of age (Ontario Association of Children’s Aid Societies, 2006). Likewise, despite the widespread research on children’s reading self-perceptions and on effective components of remedial reading programs for children struggling with reading, a limited number of methodologically-sound studies have investigated these areas for struggling adolescent and young adult readers both in the general and maltreated populations (Chong, 2006; Gottardo, Siegel & Stanovich, 1997; Hildyard & Wolfe, 2002; Vernezky & Sabitini, 2002). There is also a paucity of research on writing disabilities and intervention best practices for adolescents in general (Mason & Graham, 2008), and none to date that specifically focuses on abused youth.

An urgent need exists for research that will address the void left by few empirically-sound enquiries investigating the literacy practices, achievement and related-gains for struggling youth readers within the maltreated population (Hildyard & Wolfe, 2002). Very little is known about these populations in terms of their ability to realize literacy-based and life changing gains as the result of intensive and focused programming. The objectives of the present study are unique in their focus as no known studies to date have investigated the potential of balanced literacy intervention on skill development and social-emotional change for older Struggling Readers in the maltreated population. In an attempt to achieve the goals
of this research, the present study utilized a mixed methods approach that combined both quantitative and qualitative methodologies. Standardized and dynamic measures of reading and writing were used to measure the impact of literacy instruction on skill development of maltreated Struggling Readers. Questionnaires were also employed to measure the impact of instruction on skill-related self-perceptions. Concurrently, the nature of the youths’ self-perceptions and literacy experiences were investigated using insights gained from in-depth interviews conducted both prior to and following intervention.

Results of this work are intended to further the current knowledge base and theoretical frameworks of adolescent, educational and psychosocial psychology and to augment the endeavours of mental health practitioners, policy makers and service providers to optimally support the growth and development of individuals who are impacted by abuse.

**Research Questions**

As little is known about the cognitive, developmental and social-emotional profiles of victims of maltreatment in relation to literacy achievement, or with respect to their ability to make constructive alterations in these domains as a result of intervention, this study will be guided by the overarching question: Can participating in a remedial literacy intervention contribute to positive and meaningful change in the lives of maltreated youth who struggle with reading?

This principal question directed the quantitative portion of this dissertation by examining the impact of literacy intervention on maltreated youths’ skill development and related self-perceptions in the areas of both reading and writing. It also served to lead the qualitative segment of the study, concentrating on revealing the more global impact of the
intervention on the youth by exploring literacy experiences, self-appraisals, and actions for self-improvement both prior to and following intervention. The following more specific questions will be explored in an effort to answer this larger query:

**Reading Quantitative Questions:**

1. Prior to intervention, will maltreated adolescents and young adults with reading difficulties display significantly lower reading skill and related self-perceptions ratings than their maltreated peers without reading difficulties?

2. Will the reading skill and related self-perceptions of these Struggling Readers be amenable to remediation?

   a. That is, upon completion of an intensive literacy intervention program, will the Struggling Readers show significant gains in their own decoding, phonological processing and fluency skills?

   b. Further, upon completion of an intensive literacy intervention program, will the Struggling Readers show positive alterations in their perceptions of reading difficulty, competency and attitude, and display cumulative gains in their reading self-perceptions overall?

3. Given an initial difference in reading skill and related perception profiles, will the maltreated Struggling Readers have more similar ratings to those of the maltreated youth without reading difficulties following intervention?
**Writing Quantitative Questions:**

4. Prior to intervention, will maltreated adolescents and young adults with reading difficulties display significantly lower writing skill and writing related self-perceptions ratings than their maltreated peers without reading difficulties?

5. Will the writing skill and writing self-perceptions of these Struggling Readers be amenable to remediation?
   
a. That is, upon completion of an intensive literacy intervention program, will the Struggling Readers show significant gains in their spelling, fluency, and text composition skills?

   b. Further upon completion of an intensive literacy intervention program, will the Struggling Readers show positive alterations in their perceptions of writing difficulty, competency and attitude, and display cumulative gains in their writing self-perceptions overall?

6. Given an initial difference in writing skill and writing-related perception profiles, will the maltreated Struggling Readers have more similar ratings to those of the maltreated youth without reading difficulties following intervention?
Literacy Trends Quantitative Questions:

7. Additionally, what do the trends and patterns of pre-post intervention gain scores indicate about the relationship between reading achievement, writing achievement and self-perceptions for the maltreated youth with reading difficulties?

8. Additionally, what do the Struggling Readers’ skills and self-perceptions look like 3 months following intervention? Will potential gains made remain?

Qualitative Questions:

9. How has participation in the literacy program created meaningful change in the lives of youth-in-care?

   A. How do struggling maltreated youth readers describe their self-perceptions?

   B. How has participating in a remedial literacy program changed these perceptions?

   C. How has participating in a remedial literacy program impacted their everyday lives?

The next chapter in this dissertation describes the methods used in conducting this mixed methods study.
**Methods**

This chapter is divided into 7 main sections. The first section describes the mixed methods approach used in the current study, including a definition, a rationale for the approach and the particular mixed methods strategy employed. The second section outlines the sample and sampling strategy employed, including a discussion of the ‘Struggling Reader’ group, ‘Good Reader’ group and of the participant recruitment process. The third section describes the particulars of the literacy intervention while the fourth section presents the data collection procedures and describes the quantitative and qualitative measures employed. Section five provides a description of the data analysis and validity procedures. The sixth section concentrates on the role of the researcher and is followed by the final section on the ethical considerations of the study.

**Mixed Methods Research Approach**

In recent years, mixed methods research designs have become increasingly popular among social and health science researchers, and in fact have been touted as the “hallmark of much educational research” (Tashakkori & Teddlie, 1998, p.128). By definition, mixed methods is a “procedure for collecting, analysing, and ‘mixing’ or integrating both quantitative and qualitative data at some stage of the research process within a single study for the purpose of gaining a better understanding of the research problem” (Ivankova, Creswell, & Stick, 2006, p. 3). In mixed-methods research, quantitative data and analysis provide a general understanding of the research problem while qualitative data refine and explain statistical results by exploring participants’ views in more depth (Ivankova et al.).
Considering the paucity of research in the field of the present study, mixing methods was the preferred methodology for several reasons. Within psychology, mixed methods research provides an opportunity to better understand new phenomena or understudied populations. Thus, it was employed in the hope that it might capture a more complete picture and robust analysis of the trends and details of youth-in-care’s reading and writing abilities and related social-emotional functioning than can be explored by qualitative or quantitative studies alone. With this in mind, the findings from the qualitative approach were used to help confirm, explain and expand upon the findings generated through the quantitative analyses. Thus both findings equally provide useful information on the reading and writing skills and perceptions of adolescent youth-in-care in relation to the use of remedial literacy intervention to enhance them.

After studying the literature on successful ‘mixing’ of qualitative and quantitative approaches in research, Creswell (2009) proposed four criteria to be considered when choosing the most appropriate mixed methods design. Particularly, he suggested that one must consider: a) the timing of the implementation of the quantitative and qualitative methods (simultaneous or sequential); b) the priority or weight given to each approach within the study; c) the point of integration (collection, analysis, interpretation or at a combination of stages); d) the use of an overall theoretical perspective to guide the study (be it implicit or explicit). Using these criteria to guide the framework for the present study, a concurrent triangulation design\(^2\) as indicated by the following notation, QUAN + QUAL (Creswell), was chosen as best suited to explore the research questions (see Figure 1). Both quantitative and qualitative data were collected simultaneously and with equal emphasis within the study, in an effort to corroborate, triangulate and expand findings (Creswell). The mixing of

\(^2\) A concurrent triangulation design has also been referred to as a parallel mixed-model study (Tashakkori & Teddlie, 1998).
methods is found in the interpretation and discussion phase of this project to integrate and compare results ‘side-by-side’. Following the concurrent triangulation design, a discussion of the quantitative statistical findings is first presented and then followed by qualitative quotes to support and explain quantitative results.
Figure 1. Concurrent Triangulation Strategy.

Sample & Sampling Strategy

Initially, 60 adolescents and young adults ranging in age from 14 to 24 years ($M = 17.72$, $SD = 2.17$) consented to participate in the present study. Out of the 60 participants, 26 were female (42.6%) and 34 were male (55.7%), and for the majority of the participants ($n = 50$), English was their first language. For the purposes of this study, all of the youth were either Crown wards$^3$ or former Crown wards when they were under the age of 18 and had histories of childhood abuse and/or neglect. Further details about the participants’ maltreatment were not gathered as part of this study as their involvement with child welfare institutions formed the criterion for inclusion as a maltreated youth.

Participants were organized into two groups based on their performance on three standardized measures of reading: the Word Identification subtest of the Woodcock Reading Mastery Test – Revised (WRMT-R) (Woodcock 1987), the Word Attack subtest of the WRMT-R, and the Reading subtest of the Wide Range Achievement Test – 3 (WRAT-3) (Wilkinson, 1993). Out of the initial group of 60 participants, 25 youth became part of the comparison group (Good Readers) and 35 youth were placed into a 7 week literacy intervention program (Struggling Readers) held during the summers of 2005 or 2009$^4$.

However, over the course of the intervention, some participants from both groups were lost, leaving a total of 46 youth (Struggling Readers, $n = 24$; Good Readers, $n = 22$) serving as the basis for reported analyses (See Results & Discussion: Participant Attrition).

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$^3$ “A Crown ward is a child who has been made a permanent ward of the Crown pursuant to a court order made under the Child and Family Services Act, R.S.O. 1990, c.C.11. This order gives the Crown the rights and responsibilities of a parent for the purposes of the child’s care, custody and control. Most of the Crown’s obligations towards the Crown wards are carried out by a Children’s Aid Society and are terminated when the child reaches the age of 18” (Chong, 2006, p. 44).

$^4$ The literacy intervention program was held over two summer periods. The first cohort (2005) was conducted as part of the author’s Masters’ research, while the second cohort (2009) served as part of her Doctoral work.
**Struggling Readers.** The Struggling Readers received approximately 35 hours of reading instruction focusing on developing word identification skills through phonological awareness, letter-sound correspondence, fluency, and comprehension tasks. To take part in the reading intervention and to be considered as a ‘Struggling Reader’, participants had to score below the 20th percentile on two out of the three standardized reading measures identified above. As well, they had to be at least 14 years of age, a Crown Ward, or a former Crown Ward for participants over the age of 18.

This sample consisted of 24 Struggling Readers with an approximately equal ratio of males \((n = 13)\) to females \((n = 11)\). The youth ranged in age from 15 to 24 years old \((M = 17.64, SD = 2.29)\) and represented a variety of ethnicities. Specifically, 45.8% of the participants \((n = 11)\) identified themselves as African, African Canadian, Caribbean, or Caribbean Canadian, 37.5% \((n = 9)\) identified as European or European Canadian, while the remaining 16.7% of the participants identified themselves as East Asian, South Asian or South-East Asian \((n = 1)\), First Nations \((n = 1)\), or Biracial \((n = 2)\). As well, out of the 24 participants, the majority of the youth were still in school \((n = 16)\), while the others were employed \((n = 2)\) or neither in school nor currently employed \((n = 6)\). For the ‘Struggling Reader’ group, the average level of education was Grade 10 \((M = 10.42, SD = 1.21)\).

Of the total group of Struggling Readers, 12 of the 13 participants in the 2009 cohort further participated in an intensive writing intervention. Only one youth could not participate in this additional component due to scheduling conflicts with his job. Participants in the writing intervention ranged in age from 16 to 20 years old \((M = 17.31, SD = 1.43)\) and included 6 females and 6 males. This group received approximately 35 hours of additional instruction focusing on developing writing skills through direct and strategy-based instruction focusing on improving planning, text generation, and editing skills.
**Good Readers.** A sample group of maltreated ‘good’ readers, who were also either Crown wards or former Crown wards over 14 years of age, was included for comparison. In order to be classified as a Good Reader, a participant had to obtain a mean score at or above the 35th percentile on two of the three listed standardized measures of reading. This ensured that the Good Readers appeared to be remarkably different from the Struggling Readers on measures of literacy achievement.

These participants \((n = 22)\) ranged in age from 14 to 21 years old \((M = 17.92, SD = 2.40)\) and included 12 females and 10 males. In terms of ethnic composition, 59.1% of the participants \((n = 13)\) identified themselves as African, African Canadian, Caribbean or Caribbean Canadian, 22.7% \((n = 5)\) identified as European or European Canadian, while the remaining 18.2% of the participants identified themselves as East Asian, South Asian or South-East Asian \((n = 2)\), Latin American \((n = 1)\), or Biracial \((n = 1)\). The majority of these youth were still in school \((n = 16)\), while the others were employed \((n = 3)\) or neither in school nor currently employed \((n = 3)\). The average level of education was Grade 11 \((M = 11.09, SD = 1.69)\). Of the total number of youth in this group, 11 were also assessed on their writing skills (part of 2009 data collection phase). These participants ranged in age from 17 to 21 years old \((M = 19.86, SD = 1.53)\) and included 4 females and 7 males.

Table 1 presents the initial screening scores for the Struggling and Good Readers (mean raw scores, mean standard scores, and mean percentile rankings with respective standard deviations) on the three standardized measures of reading mentioned above.
Table 1

*Mean Raw Scores, Standard Scores & Percentile Ranks for Struggling and Good Readers from the Child Welfare System*

<table>
<thead>
<tr>
<th>Measure</th>
<th>Struggling Readers (n = 24)</th>
<th>Good Readers (n = 22)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M (SD)</td>
<td>M (SD)</td>
</tr>
<tr>
<td>WRMT-R Word Identification</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw Score</td>
<td>60.88 (12.32)</td>
<td>92.09 (4.71)</td>
</tr>
<tr>
<td>Standard Score</td>
<td>58.75 (18.84)</td>
<td>98.27 (5.73)</td>
</tr>
<tr>
<td>Percentile</td>
<td>2.74 (4.20)</td>
<td>46.09 (16.58)</td>
</tr>
<tr>
<td>WRMT-R Word Attack</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw Score</td>
<td>19 (9.28)</td>
<td>38.18 (3.33)</td>
</tr>
<tr>
<td>Standard Score</td>
<td>72.83 (13.82)</td>
<td>104.73 (8.83)</td>
</tr>
<tr>
<td>Percentile</td>
<td>8.73 (11.07)</td>
<td>60.59 (19.65)</td>
</tr>
<tr>
<td>WRAT-3 Reading</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw Score</td>
<td>32.08 (5.73)</td>
<td>46.73 (3.52)</td>
</tr>
<tr>
<td>Standard Score</td>
<td>71.54 (12.02)</td>
<td>103.50 (6.77)</td>
</tr>
<tr>
<td>Percentile</td>
<td>6.29 (6.11)</td>
<td>58.46 (16.47)</td>
</tr>
</tbody>
</table>

**Participant Recruitment**

Three child welfare agencies in Toronto figured prominently in the recruitment process of participants: Pape Adolescent Resource Centre (PARC)⁵, the Children’s Aid Society of Toronto (CAST) and the Catholic Children’s Aid Society of Toronto (CCAS). The majority of the youth were referred for this study by social workers within these agencies, with a few of the youth being self-referred. To recruit participants for inclusion in this study, the author discussed the present project with administrators at PARC and The Children’s Aid Societies to obtain approval to solicit the recruited youths’ additional

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⁵ “Pape Adolescent Resource Centre is a joint venture of the Children’s Aid Society, the Catholic Children’s Aid Society, and Jewish Family and Youth Services. PARC was created to help youth-in-care aged 14 to 26 make the transition to living independently” (Chong, 2006, p. 97).
participation. Additionally, flyers describing the study were posted around PARC where screening appointments were conducted (See Appendix D).

Initial confirmation of interest in the present study occurred at the time of each participants’ reading assessment. Interested participants were provided with a copy of and read aloud an information letter and consent form (See Appendix E) stating the particulars of the project and outlining the possible risks and benefits. Once written and verbal consent was obtained from the youth, participants were asked to partake in measures of self-evaluation (i.e., reading and writing specific) and literacy achievement.

Reading and Writing Intervention Programs

There were two separate parts in the intervention program: one for the development of reading skills, the other for writing. Each of these parts was based on a well-researched core program, but each was adapted to meet the needs of the unique population participating in the intervention. Below are descriptions of the Reading and Writing interventions, respectively.

**REAdy, Set, Go.** The Struggling Readers in both the 2005 and 2009 sessions \((n = 24)\) received approximately 35-hours of reading instruction for 2-hour sessions, 4 days per week (Tuesday to Friday). The reading intervention focused on developing key word identification skills through phonological awareness, letter-sound correspondence, fluency, and comprehension tasks. The *Phonological and Strategy Training (PHAST) Program* by Lovett, Lacerenza and Borden (2000) served as the basis for this reading intervention.
Additional components such as reading-related games (e.g., Word Jenga, Vowel Go-Fish, Word Chunking) and fluency activities were added to the curriculum.

There were six reading groups in total (3 groups per summer cohort, grouped by skill level) and each group contained three to five participants. The groups were formulated according to the grouping strategy used by Chong (2006) in her study on reading achievement and maltreated youth (grouped by similarities in raw and standard scores on the 3 screening measures of reading). Additionally, the Struggling Readers received $70.00 per week for their attendance and participation in the program. Snacks were also provided daily and a communal lunch was held every Friday. For the 2009 cohort, lunch was also provided for a full two-week period as part of a nutritional campaign (participants read recipes and helped to prepare group meals). These components were included in part to encourage the development of a social community and to address the nutritional needs of the maltreated youth.

The WRITE Track. The writing intervention used in this study was delivered to the majority of Struggling Readers in the summer of 2009 cohort. Like the reading intervention, the Struggling Readers in the writing session ($n = 12$) received approximately 35 hours of additional writing instruction. An extra 2 hours of instruction, 4 days per week (Tuesday to Friday), was added to their program. Writing research and practices outlined by Graham and Perin (2007) served as the basis for this intervention. The writing component focused on developing good writing practice through direct and strategy-based training in key components to writing. The self-regulated strategy development model to writing guided our approach to teaching skills in planning, organizing, writing, editing and rewriting (POWER writing as outlined by Graham & Harris, 2006). Specific skills in spelling, handwriting and
grammar were also included, as were targeted writing exercises. Spelling lessons were based on a combination of curricula adapted from Spelling through Morphographs®. Printing and typing exercises were incorporated and individualized to meet the needs of each participant by following lessons provided through Handwriting Without Tears® and Mavis Beacon Teaches Typing® programs. Further, vocabulary building and grammar exercises were also integrated into the writing intervention. Exercises included activities such as exploring ‘words of the day’, completing closed sentences and/or spotting and correcting errors in provided text. Additional motivational and interactive writing components such as instant messaging through mobile technology, sending and responding to emails from peer participants and instructors, and using word processing programs for drafting magazine editorials were added to the curriculum.

The grouping strategy for the writing intervention mirrored that of the reading groups to keep consistency across skill-level and participant familiarity. There were three writing groups in total and each group contained four participants. No further honoraria or food were provided in addition to those described above in the description of the reading intervention.

Although the complex curricula implemented for reading and writing were based on well-established evidence-based programs/approaches to reading and writing (PHAST and POWER), the present intervention was an adaptation of these interventions to make them more motivating and comprehensive to address the needs of this particular population. This exploratory study was not intended to test a “replicable” intervention methodology but rather to see whether an intervention that was based on evidence-informed components could “make a difference”. Future research should be directed toward addressing the various
components in the complex intervention to determine which aspects of the intervention are “active ingredients” in improving literacy skills overall.

‘Lit for Life’ Dinner Dance

Funding to make the research possible was provided through a targeted fund-raising effort initiated by the author. To help make the ‘Lit for Life’ Youth Literacy Research Program a reality, 200 people from the community came together at a dinner dance evening to raise the necessary funds to make this study and, more importantly, the intervention possible. A team of 17 volunteers worked tirelessly to organize the evening from conception to completion. Promotional event material was created, corporate and private sponsorship was generated, and community awareness was reared. The event was an essential component of the program allowing for monetary support for the participants, as well as research and educational endeavours to be pursued. A total of $20,000 was raised, as was the concern for a cause worthy of support (See Appendix F).

Data Collection

This quasi-experimental study employed a repeated measures, pre-post design whereby the participants in the literacy intervention served as their own within-subject wait-list controls. Literacy program participants were assigned to one of three small literacy groups based on their reading scores. A classic experimental design was not used due to the small number of participants and the ethical concern of denying such disabled readers the opportunity to potentially improve their literacy skills.
Assessments occurred at four time points, the first three of which are particularly of interest to this study. Figure 2 presents a timeline summary of assessment and intervention for the ‘Lit for Life’ Youth Literacy Research Program. Baseline data (2009 cohort) was gathered from both the Struggling and Good Readers groups approximately 8 weeks prior to the commencement of the intervention program (Test Point 1: baseline). Testing continued for the Struggling Reader group just before the start of the intervention program (Test Point 2: pre-test) and again, 7 weeks later at the end of the intervention (Test Point 3: post-test). To address issues of maintenance and generalization, assessments were completed with the Struggling Readers once more, 3 months following participation in the program (Test Point 4: follow-up). Data for the 2005 cohort of Struggling and Good Readers was gathered during Test Point 2 and 3 only.
2005 COHORT: Struggling and Good Reader data was collected during Test Points 2 & 3 only; measures included reading screen tests, reading self-perception questionnaire and related interview; literacy intervention consisted of reading curriculum only.

2009 COHORT: Struggling Reader data was collected at all Test Points; Good Reader data was collected at Test Point 1 only; measures included reading and writing focused tests, related self-perception questionnaires and interviews; literacy intervention consisted of reading and writing curriculum.

For all testing scenarios, all measures were read aloud to the participants in an effort to standardize administration across participants and in consideration of the reading difficulties of some of the youth. Each testing session was completed in approximately 2 hours and all of the youth were individually tested by either the author or one of two other trained clinical psychology or education graduate students at Test Point 1 and 2. At Test Point 3, two trained alternative graduate students conducted the assessments to protect against experimenter bias and social desirability effects. During the intervention in 2009 (between Test Point 2 and 3), 10 minute in-class writing assessments were additionally completed weekly to contribute to the assessment battery.
Empirically validated questionnaires (See Measures) were used to identify and quantify literacy-based self-perception ratings of participants from both the Struggling and Good Reader groups (2005 & 2009). Administration procedures of these instruments were adapted from the suggested presentation style to accommodate the needs of the population under investigation. Particularly, in addition to reading questionnaire items and subsequent response options aloud, corresponding Likert scales on large cards were visually presented at all times during administration and were consistently referred to by the assessor (through pointing). As well, if any question was unclear to a participant, the question was repeated and/or asked in a scaled-down or simplified manner. This ensured that all participants had a clear understanding of the questions being asked of them. Participants’ responses were recorded when appropriate by the assessor.

Additionally, each youth in the Struggling Reader group (2005, 2009) participated in an in-depth, semi-structured interview at all testing points, to cross-validate, explain and expand upon the information gathered through the perception-based questionnaires. Time 2 and 3 interviews are of relevance to this study. As was the case for the questionnaires, if any question was unclear to a participant, the question was repeated and/or asked in a scaled-down or simplified manner. Participant responses were both initially hand recorded in point-form and audio-recorded for later verbatim transcription.

The interviews and the questionnaires were administered in tandem and at each testing point. Skill-based information was also collected at this time and followed equivalent administration practices as were employed for the interviews and questionnaires. All of the measures were administered and scored in a standardized way by either the author or by one other clinical psychology graduate student. All tests were double-scored by the author and
fifty percent of the tests administered by the author were double-scored by trained graduate students. (See Appendix G for a further summary of test points and assessment measures).

**Quantitative Measures**

The purpose of the quantitative measures was to evaluate whether participating in intensive instruction in reading and writing would enhance the literacy skills and related self-concepts of maltreated Struggling Readers. The following measures were selected as they have been identified in previous research to be reliable and valid estimates of reading and writing achievement and specified self-perceptions (see Table 2).
Table 2

*Quantitative Measures*

<table>
<thead>
<tr>
<th>Reading Measures</th>
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</thead>
<tbody>
<tr>
<td><strong>Reading Achievement</strong></td>
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<tr>
<td><strong>Phonological Processing</strong></td>
</tr>
<tr>
<td>Comprehensive Test of Phonological Processing (CTOPP, Wagner, Torgesen &amp; Rashotte, 1999): Blending Words, Elision, Segmentation Subtests</td>
</tr>
<tr>
<td><strong>Reading Fluency</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Writing Measures</th>
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</thead>
<tbody>
<tr>
<td><strong>Spelling</strong></td>
</tr>
<tr>
<td>Wide Range Achievement Test -3 (WRAT-3, Wilkinson, 1993): Spelling Subtest</td>
</tr>
<tr>
<td><strong>Writing Fluency</strong></td>
</tr>
<tr>
<td><strong>Written Expression</strong></td>
</tr>
<tr>
<td>Timed Writing Samples (self-authored, 2009): Measure of Production, Spelling, Semantics, Vocabulary, Overall Text Composition</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Self - Perception Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Reading</strong></td>
</tr>
<tr>
<td>Reading Self-Concept Scale (RSCS; Chapman &amp; Tunmer, 1995): Adaptation</td>
</tr>
<tr>
<td><strong>Writing</strong></td>
</tr>
<tr>
<td>Writing Self-Concept Scale (adapted from RSCS; Chapman &amp; Tunmer, 1995)</td>
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<table>
<thead>
<tr>
<th>Hawthorne Effect Measure</th>
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<tr>
<td>Arithmetic</td>
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</table>
**Reading & Writing.** Reading and writing are cognitive processes that map written language onto phonological representations (Woodcock, 1998). The acquisition of skills in reading and writing traditionally follows stages of language development initially based on “phonological subword transformation processes”. As these skills improve, the reader and writer become less dependent on these processes and more independent, automatic and competent in their literacy skills (Baron & Strawson, 1976; Coltheart, 1978; Gough & Cosky, 1977). Two activities responsible for reading skill acquisition have been identified by Humphreys and Evett (1985) as whole word recognition and phonological process. Writing also involves psychological processes resulting in the visual representation of the sounds of the language by written or printed symbols. Orthographic and graphemic awareness skills are important for writing skill development. Thus, the following measures aim to capture some of the key processes involved in learning to read and write.

**Reading Screening Measures.** As a means for determining participant group formulation (Good or Struggling Readers) and to investigate participants’ reading aptitude both prior to and following the reading intervention, standardized measures of word reading and pseudoword reading were administered. Measures of phonological awareness skills are thought to be the core skills needed to be successful at reading.

*Woodcock Reading Mastery Test – Revised (WRMT-R, Woodcock, 1987).*

The Word Identification subtest and the Pseudoword subtest of the Woodcock Reading Mastery Test – Revised (WRMT-R) were administered to assess participants’ ability to read individual words and to read nonsense words such as *dee, bufty* and *nigh*. On the Word Identification subtest, participants were required to read aloud a list of words that
progressively become more difficult and complex in combination. Participants were scored 1 point for each correctly read word and 0 points for each inaccurately pronounced word. The subtest has a time restriction of 5-seconds per word before the participant was scored 0 and asked to proceed to the next question. It also has a basal of 6 consecutive correct responses and a ceiling of 6 consecutive failed responses. The administration of the Word Attack subtest was identical to the Word Identification task. Differences lie only in the word type (i.e., nonsense word versus real word) and in the fact that there was no time limit or basal requirement.

Both of these subtests can be reliably assumed to meet acceptable criteria for internal consistency reliabilities. Positive correlations of above 0.9 were obtained for both the Word Identification and Word Attack subtests (Cronbach’s alphas reported for median across age groups).


The Word Identification subtest of the Wide Range Achievement Test – 3 (WRAT-3) was also administered to assess participants’ ability to read individual words. Similar to the administration procedures on the WRMT-R, participants were required to read aloud a list of words that progressively become more difficult and complex. Participants were scored 1 point for each correctly read word and 0 points for each inaccurately pronounced word. This subtest had a time limit of 10-seconds per word and a ceiling of 10 consecutive failed responses. The Word Identification subtest of the WRAT-3 also yielded an acceptable internal consistency score of .95 (coefficient alpha reported for median across all age groups).
**Phonological Processing Measures.** To investigate participants’ phonological processing skills prior to and following reading intervention, standardized measures of phonological awareness skills were administered at all four testing points to the Struggling Reader group and at Test Point 1 to the Good Reader group. Research shows that there is a strong relationship between the development of phonological processing abilities and the acquisition of word-level reading skills (National Reading Panel, 2000). Reading disability is most often seen at the level of decoding individual words and components of words. As such, phonological processing deficits are viewed as the most common cause and best predictor of reading difficulties (National Reading Panel; Stanovich & Siegel, 1994). Thus, phonemic competence, retrieval and manipulation skills are critical for the development of sound reading practices, and have implications for writing-related abilities such as spelling.

**Phonological Awareness.** Measures of phonological awareness were administered in order to flush out skills of mixing syllables and sounds into words, omitting syllables and sounds from words and dividing words into syllables and sounds. These skills were measured using three subtests from the Comprehensive Test of Phonological Processing (CTOPP, Wagner, Torgesen & Rashotte, 1999): the Blending subtest, the Elision subtest (deletion), and the Segmenting subtest.

*Comprehensive Test of Phonological Processing (CTOPP, Wagner, Torgesen & Rashotte, 1999).*

The Blending, Elision and Segmentation subtests were administered to assess participants’ ability to synthesize words from discrete sounds and to break words into syllables and component phonemes. For the Elision subtest for example, the examiner read
instructions aloud and then asked the participant to repeat a given word, followed by omitting a particular sound combination of the given word (e.g., Say boathouse. Now say boathouse without saying house). Each item progressively became more difficult and complex in combination. Participants were scored 1 point for each correct answer and 0 points for each inaccurate response. Each subtest has a ceiling of 3 consecutive failed responses. The administration of the other two subtests was similar, with differences lying only in the type of task (e.g., blend sound combinations presented, ‘b/oy’ to ‘boy’, or break sounds into segments, ‘he’ to ‘h/ē’) and presentation style (e.g., examiner lead versus audio recorded instructions).

The CTOPP demonstrates evidence as a reliable measure of phonological processing for individuals 5 – 24 years of age regardless of gender, minority group status, or developmental status. Scores for these subtests yield acceptable measures of internal consistency. A positive mean correlation of 0.87 was obtained for this scale when age and subtest type were collapsed (Coefficient alpha).

**Reading Fluency Measures.** To investigate participants’ reading fluency skills, standardized and dynamic measures of word reading rate and accuracy were administered. A fluent reader can be described as having automatic decoding processes; the ability to fluently and effortlessly translate letters to sounds and sounds to words. Fluent reading is accomplished by quick and accurate recognition of words.

**Reading Rate and Accuracy:**

oral reading difficulties and details the effects of instruction over time on oral reading. Participants were asked to read a variety of stories aloud (maximum 14), while the examiner recorded the time taken to read, and word errors stated during reading. Stories progressed from beginner to advanced reading levels and were administered according to specific examinee instructions for basal and ceiling criteria. Two parallel forms were also used for test-retest administration across testing points. Task components of specific interest to this study provided information on participants’ oral reading skills in terms of the amount of time taken to read selected stories (rate) and the ability to pronounce each word in the story correctly (accuracy). Combined rate and accuracy scores formed a composite fluency score. The GORT-4 is intended for children aged 7 years 0 months (7-0) to 18 years 11 months (18-11). For participants 19 years of age and older ($n = 13/46, 28\%$), norms for the oldest age group (18-11) were used.

“The GORT-4 has met the challenge of prior criticism by providing all new normative data that were collected in 2000 and are representative of the current U.S. population as defined by 2000 Census data projections” (Crumpton, 2003). New reliability and validity studies were completed and demonstrated high internal consistency reliabilities at .90 or above.

**Writing Achievement Measures.** To investigate participants’ writing aptitude prior to and following the writing component of the literacy intervention, standardized and dynamic measures of writing were administered. Skills in spelling, writing fluency, and written expression (i.e., total words written, correct word sequencing, vocabulary, text composition and construction) were of particular interest to this study, as measures of such skills have been suggested to be at the core of successful writing practices.
**Spelling.** Tests of spelling ability capture one’s knowledge of word forms in the “mental lexicon” (Schrank, 2006, p. 13). It involves translating phonology to orthographic representations of words “either by mapping whole-word phonology into whole-word orthography (if the word is contained in the lexicon), or by translating phonemic segments into graphemic units” (Caplan, 1992, p. 214).

*Wide Range Achievement Test -3 (WRAT-3, Wilkinson, 1993).*

A test of spelling taken from the Wide Range Achievement Test Third Edition was used to measure children’s ability to accurately spell English words. The test consists of a list of 40 words that increase in complexity and obscurity as the test progresses. Participants were asked to spell dictated target words as the examiner read the word aloud, used it in a sentence, and then repeated it once more. The WRAT-3 is considered to be a valid and reliable test as it yields internal consistency scores between .85 and .95 (coefficient alpha reported for median across all age groups).

**Writing Fluency.** Tests of writing fluency measure one’s ability in both writing and writing speed. A fluent writer is able to quickly combine words to create meaningful phrases. Automaticity of writing stems from one’s ability to map semantics directly into orthography (Schrank, 2006).

A test of writing fluency taken from the Woodcock Johnson Tests of Achievement Test Third Edition was used to measure one’s ability to quickly generate and write simple sentences. Each item in this test was presented with three given words that described a corresponding picture. Participants were asked to use the three words to write a simple sentence about the picture while not changing the presented word forms in any way. Each participant was given 7 minutes to complete as many items as they could. The WJ III ACH is considered to be a valid and reliable test as it yields excellent internal consistency scores with a median coefficient alpha of .88 across subtests and specific to the Writing Fluency Subtest.

Written Expression. Samples of written expression measure one’s ability “to convey propositional meaning at the discourse level of language” (Schrank, 2006, p. 13). It requires not only the retrieval of word meanings from the mental lexicon but the knowledge of how words combine together meaningfully to create telling sentences. Text construction involves planning and organization, fluent thinking, accurate application of writing mechanics (spelling, grammar, punctuation) and working memory skills to integrate compositional elements into a well-formed communication.

Curriculum Based Measurement of Written Expression.

Timed writing samples were administered to the Struggling Readers throughout the duration of the intervention and at Test-Point 1 to the Good Readers. Participants were given 10 minutes to write about a topic presented to them at each administration (6 in total for the Struggling Readers and 1 for the Good Readers). Topics were chosen so as to maximize the
likelihood of text generation; no prior knowledge on or exposure to the subject was necessary, rather responses would be based on personal opinion and preferences. Each topic thread was consistent, always beginning with the instructions to “describe your ideal… (job, meal, vacation, home, friend, you)”. Participants were instructed to be detailed in their responses and to try their best with spelling, grammar and punctuation. Participants were also encouraged to write as much as possible. Of the samples generated for the Struggling Reader group, 3 were developed as typed responses using word processing programs. The other 3 samples were written by hand. The written responses were of particular interest to this study.

Hand written samples were assessed using a curriculum-based approach to measurement (Jewell & Malecki, 2005; McMaster & Pétursdóttir, 2009; Weissenburger & Espin, 2005). Scores for writing productivity (total words written), writing accuracy (proportion of words spelled correctly, proportion of correct word sequencing), combined accuracy and production (correct word sequences minus incorrect word sequences), and lexical complexity (number of 7-letter words used) were generated (See Appendix H for definitions of each CBM and a scored example).

Numerous studies have found these measures to be significantly correlated with alternative measures of written language, such as Hammill and Larsen’s Test of Written Language (1978), and with teachers’ holistic measures of writing (Jewell & Malecki, 2005).

**Writing Samples Rubric.**

Using classifications and ratings adapted from the Test of Written Language – Fourth Edition (2009) as a guide, a researcher-designed written expression scale was also used as a criterion measure of writing. Overall text composition and construction (ideas, organization,
and holistic impression) was investigated using the writing rubric to direct analysis (See Appendix I). The writing rubric was created with input from the research team. Test-retest trials were conducted to ensure 95% agreement across raters on 30% of written samples (writing sample 1).

**Self-Perception Measures.** To facilitate participants’ interest, ease of completion and to maintain the authenticity of the study, the number of items presented from each questionnaire was reduced to create adapted versions of the scales. In creating the adapted versions, terminology was modified where appropriate to better reflect the audience (e.g., the terms ‘kids’ and ‘teenagers’ was changed to ‘youth’), and questions referring to ‘home situations’ (e.g., “Do you like reading to your Mum and Dad?”) were eliminated (See Appendix J).

*Reading Self-Concept Scale (RSCS, Chapman & Tunmer, 1995)*.

The RSCS is a 30-item questionnaire aimed at assessing the reading sub-component of academic self-concept. It is comprised of 3 subscales, namely Perceptions of Competence in Reading (competence), Perceptions of Difficulty with Reading (Difficulty), and Attitudes Toward Reading (attitude), which tap into 3 distinct but related components of reading. For the purposes of this study and the reasons stated above, the number of items presented was reduced to include 6 questions reflecting each sub-component, for a total of 18 items. Following the authors’ suggested presentation format of the measure, each item was stated in an objective and neutral question format (e.g., “Are you a Good Reader?”) as opposed to the usual declarative format (“I am a Good Reader.”). Participants then responded to each item on a 5-point scale (1 = yes, always; 2 = yes, usually; 3 = undecided or unsure; 4 = no, not
usually; 5 = no, never). As reported by Chapman and Tumner (1995), “the 30-item scale can be reliably assumed to meet acceptable criteria for both construct and face validity. Positive correlations of above 0.8 were obtained with regard to the internal reliability of the scale (Cronbach’s alpha); slightly lower correlations were produced for the three subscales, but all reached acceptably high levels” (p.2).

**Writing Self-Concept Scale (WSCS, Self-Authored based on the RSCS, Chapman & Tunmer, 1995).**

Using the RSCS as a guide, the WSCS was created to assess the writing sub-component of academic self-concept. The WSCS comprises 30 items, all worded in question format (e.g., “Are you a good writer?”), as opposed to the usual declarative format (“I am a good writer.”). Participants are to respond to each item on a 5-point scale (1 = yes, always; 2 = yes, usually; 3 = undecided or unsure; 4 = no, not usually; 5 = no, never). The WSCS has three subscales (each with 10 items): Perceptions of Competence in Writing (competence), Perceptions of Difficulty with Writing (Difficulty), and Attitudes Toward Writing (attitude).

**Mathematical Ability – Measure of Hawthorne/Halo Effect.**

**Wide Range Achievement Test – 3 (WRAT-3, Wilkinson, 1993).**

The Arithmetic subtest of the Wide Range Achievement Test – 3 (WRAT-3) was also administered to assess participants’ ability and potential growth in mathematical skills prior to and following intervention. The notion behind inclusion of this subtest is to control for possible Hawthorne/Halo effects that may have developed as a result of participating in an intervention designed to improve reading and writing. Any significant improvements in arithmetic may be attributed to the novelty of being ‘studied’ and the desire to perform well
while being a participant (National Reading Panel, 2000, p. 2-3). Collective gains in arithmetic and reading/writing therefore, may not be due to true improvements resulting from intervention, but rather to the Halo or Hawthorne effects. If, however, gains are made in reading for example and not math, than reading gains are likely to reflect change due to treatment.

**Qualitative Measures**

For the qualitative component, a multiple case study approach was used to help explain the nature of the maltreated Struggling Readers’ self-perceptions. “A case study is an exploration of a bounded system or a case over time through detailed, in-depth data collection involving multiple sources of information and rich in context. A multiple case study design includes more than one case, and the analysis is performed at two levels: within each case and across the cases” (Ivankova et al., 2006, p. 25).

To provide richness and depth of the case description, the youth in the intervention groups participated in in-depth, semi-structured interviews (See Appendix K). The interviews consisted of open-ended questions that enabled researchers to develop comprehensive understandings of the participants’ experiences (Roberts & Cairns, 1999). Each interview began with a brief description of the study’s purpose and opened with a neutral question about reading: “What kinds of materials do you like to read?” Each interview proceeded with follow-up questions that were informed by the work of Chapman and Tunmer (1995, 2003), Henk and Melnick, (1995) and Marsh et al. (2005). Intervention participants in the 2009 cohort responded to an additional set of questions about writing, their writing experiences and writing self-perceptions. These questions mirrored those asked
about reading. For both cohorts, questions about the participants’ experience and evaluation of the intervention program were also included. Each interview was audiotaped and transcribed verbatim. A subsample of interview responses from the 2005 and 2009 cohorts were used for analysis purposes.

**Data Analysis & Validity Procedures**

Mixed methods concurrent triangulation design consists of one phase of research in which quantitative and qualitative data are collected and analysed concurrently and given equal priority in the study. In the present study, the quantitative data are analysed statistically and the qualitative data are analysed through content analysis. As well, several verification procedures were adopted within each method to improve the reliability and validity, and “trustworthiness and rigor” of the study (Strauss & Corbin, 1998).

**Quantitative Analysis.** Quantitative methodology was used to answer research questions about the maltreated youths’ reading and writing self-perceptions and literacy achievements. Independent and paired-samples *t* tests and repeated measure ANOVAs were conducted to evaluate whether these variables significantly differed among the two groups (Struggling versus Good Readers) and whether the variables were impacted (especially in the Struggling Reader group) following the intervention period. Additionally, trend and pattern analyses were conducted to investigate the relationship between the gain scores in literacy achievement and the gain scores in self-perception at Test Point 2 for the Struggling Reader group. To secure the validity and reliability of the reported results, empirically supported instruments that reported high internal and external validity ratings were selected for use in
this study. As well, all of the questionnaires were scored in a standardized way by the author and fifty-percent were double-scored by a trained graduate student.

**Qualitative Analysis.** Qualitative methodology was employed to address the last of the stated research questions which sought to explore variables that potentially contributed to the more global impact that the intervention had on the everyday lives of these maltreated youth with reading difficulties. Semi-structured interviews were analysed thematically using several strategies from grounded theory methodology (Strauss & Corbin, 1998). Specifically, participants’ responses were broken down into words or phrases that represented meaning units or codes. These codes were then refined and sorted into sub-categories which subsequently formed four overarching categories. Lastly, categories were analysed to reveal underlying themes and patterns.

Throughout the data analysis process, strategies were employed to ensure the rigor and trustworthiness of the findings. Typically, the trustworthiness of a study is evaluated in quantitative research through validity and reliability analysis. The constructs of credibility, transferability and dependability are those employed in qualitative research (Lincoln & Guba, 1985).

To increase the likelihood of credible findings, Lincoln and Guba (1985) suggest the use of triangulation and member checking. In this mixed-methods study, different sources of information (i.e., questionnaires and interviews) were cross-checked to validate the results of the quantitative data with the results from the qualitative data. As well, participant responses were continually verified with each participant by having the investigator repeat responses aloud as they were being hand-recorded. This guaranteed that the data was being perceived correctly and that the intended sentiments and ideas of the participants were understood.
Establishing transferability requires that rich and full descriptions of cases and direct quotations be employed (Lincoln & Guba, 1985) to enable the reader to “enter into the situation and thoughts of the people represented in the report” (Patton, 1990, p.430). This approach accurately presents the findings and allows the reader to understand the interpretations of the data in an interesting and informative manner. In this study, results were reviewed for discrepancies and care was taken in resolving discrepancies in evidence.

In trying to increase the dependability of the results acquired from the data, triangulation methods were employed. As well, at all critical testing points (1, 2 and 3, as shown in Figure 2 Timeline) investigators did not have a relationship with the participants that might have influenced their responses. Additionally, an external auditor was enlisted to recode and analyse the interviews. The findings from the auditor’s investigation were subsequently compared for agreement purposes to the researcher’s findings. Both reviews of the data showed that the categories and primary themes remained the same. Further, the study was always privy to the academic adviser’s auditing (Ivankova et al., 2006) and an audit train of the data (i.e., raw data, data reduction, analysis products and data reconstruction) had been rigorously maintained (Lincoln & Guba, 1985). The researcher was also conscious of selecting a group of participants that possessed relevant characteristics to the phenomenon under investigation (Mays & Pope, 1995).

**Integration of Quantitative and Qualitative Analyses.** Quantitative and qualitative findings were integrated to bring meaning to the data and to reveal areas of convergence, elaboration, and/or discrepancy. Specifically, this study sought to better understand the literacy skills, thoughts, perceptions and related actions of struggling youth-in-care readers
around reading and writing, and how these variables might be affected following direct intervention.

**Role of the Researcher.** As an additional methodological safeguard, several researchers have suggested that engaging in self-reflection be a foundational first step to data collection and analysis (Horsburgh, 2003; Moustakas, 1994; Polkinghorne, 1989). In practicing reflexivity, researchers identify and record their assumptions and biases about their research which in turn enables them to approach their study candidly and free of influences derived from their own beliefs, knowledge and prior experiences (Moustakas). Horsburgh and Polkinghorne propose that recognizing the impact that a researcher’s expectations and preconceived notions can have on the meaning and context of a study can actually guard against such potential influences from swaying the investigation. Accordingly, a process of self-reflection was undertaken by the primary researcher in an effort to advance the rigor of this study. The following assumptions have been considered:

- that participants will be honest in their accounts
- that the participants will be seen as equal in value to other experts
- that examining the achievement skills, experiences and related-perceptions of youth-in-care and particularly those who are struggling with reading is important and necessary so that the lives and experiences of these youth can be improved
- that maltreated youth, despite having the common tie of a history of abuse, are individuals with different histories and, consequently, may experience, view and manage life in unique ways
- that conducting a thorough examination of the skills, experiences and perceptions of maltreated youths requires an open mind and a non-judgemental stance as they may
manage their experiences of a variety of stressors, demands and responsibilities in
effective or ineffective ways

- that having compassion for their hardships is understandable but should not influence
  analyses

Reasons for conducting the present investigation have also been considered:

Over the past several years I have become increasingly aware of the rising number of
maltreated youth in Canada, and particularly within Toronto, Ontario. The research on this
vulnerable population suggests that they are at increased risk for developing a myriad of poor
developmental and cognitive outcomes. This finding is particularly alarming as the long-
term consequences of low literacy skills and negative self-evaluations are severe, pervasive
and long-lasting. Although numerous researchers are actively investigating (usually
separately) the impact of maltreatment and of low literacy skills in children, adolescent and
young adult populations are frequently forgotten. I wish to promote the psychological and
academic well-being of these youth, as I feel that they can possibly be helped and in turn,
have the potential to make positive changes in their lives. Considering the devastating
effects of abuse, low literacy and negative self-evaluations and that this population is at such
a critical time in their lives (e.g., often needing to secure their own housing, employment, and
financial stability), I conducted the present study to provide these youth with a voice that
could be heard by researchers and support personnel. It is my hope that the present
investigation will lead to improvements in the lives of these individuals.
Ethical Considerations

In view of the nature of the population in the present study, ethical considerations were of utmost importance, as was implementing safeguards to be carefully followed. Before the commencement of the study, ethical approval was obtained from the University of Toronto, PARC and from The Children’s Aid Societies of Toronto. Informed consent was obtained from each participant after they were provided with and read aloud an information letter and consent form which stated the particulars of the project and outlined the possible risks and benefits. During this time, the contents of the consent letter were reviewed to ensure that participants understood what they had read. All participants were informed that their participation was voluntary and that they could withdraw from the study at any time. Youth in the Struggling Reader group were also assured that if they chose not to participate or to withdraw from the study at any time that they would continue to have access to the summer intervention program. Likewise, case workers could request the non-inclusion of agency clients based on particular clinical and treatment needs.

All efforts were made to ensure that the selected assessment measures were as benign as possible and that they did not require reflection on maltreated histories. The quantitative measures were well-researched and commonly used measures in the field of reading and writing achievement and self-perception studies. The semi-structured interview was directed at self-reflection on reading, writing and related components (i.e., perception, enjoyment, proficiency), on the intervention experience and on program evaluation. For all of the measures, participants were informed that they could skip any items, request a break, or withdraw from the activity at any time. As well, participants were encouraged to speak with the researcher or supervisor if they felt that they required further support following any
interaction. Resources and contact information for accessible support services were provided at each testing point.

In order to protect participants’ privacy and confidentiality, it was emphasised that participants’ anonymity would be ensured as no names would be attached to data. Participants were assigned a code that was used in place of their names on all test protocols, files and interview audio-recordings/transcriptions. As well, the collected data was contained in a locked cabinet throughout the duration of the study and all audio-recordings were destroyed once the accuracy of the interviews had been confirmed.
Results & Discussion

The purpose of this study was to examine the effects of a remedial literacy intervention on maltreated youths’ skill development and related self-perceptions in the areas of reading and writing. The results are presented in three major sections: (1) participant attrition, (2) quantitative findings and discussions, and (3) qualitative findings and discussions.

The first section, addressing the participant attrition rate, provides a brief discussion of the reasons for participant loss in the study.

The second section reports and discusses the results obtained from the quantitative analyses performed in the study, which were guided by the overarching research question and sub-questions pertaining to the impact of literacy intervention for adolescents and young adults in the Child Welfare system. In this section, independent samples t tests were conducted at testing points 2 (pre) and 3 (post) in order to compare the reading and writing skills, along with related self-perception ratings, of the ‘Struggling Reader’ and the ‘Good Reader’ groups of maltreated youth. This section also describes the results of repeated measures ANOVAs and paired samples t tests that were used to evaluate whether the Struggling Readers made significant gains in their literacy skills and self-evaluations following the intervention. Further, independent-samples t tests and trend analyses were conducted to investigate the relationship between the growth rates in reading and writing achievement and the growth rates in self-perception scores for the Struggling Reader group.

Due to the paucity of existing research in this area, the significance level of each t test was set at $p < .05$, so as not to discount patterns that might be occurring (Cabin & Mitchell, 2000; Nakagawa, 2004). The significance levels of repeated measure analyses, however,
were adjusted to account for Type I errors using the Bonferroni method. For all analyses conducted, when variables of interest demonstrated non-normal distributional properties (skewness and/or kurtosis), non-parametric analyses were performed. Further, extreme scores were Winsorized\(^6\) to reduce the potential for results to be influenced by outlier data in each distribution.

The third section of this chapter presents the findings derived from the qualitative questions and analyses. Interview transcripts were analysed from a grounded theory approach (Strauss & Corbin, 1998) to provide a context and more comprehensive understanding of the self-perceptions of struggling youth readers from the child welfare system. Several strategies were employed including open coding, cluster (sub-category) and category development, theme generation, and within and across-case pattern analyses.

**Participant Attrition**

Out of the initial 60 youth that consented to participate, 14 youth (23.3%) withdrew from the study, 11 of whom belonged to the reading intervention program \(n = 5, 2005; n = 6, 2009\), and 3 from the comparison group \(n = 3, 2005\).\(^7\) Of concern when designing this study was the potential difficulty in enticing adolescent and young adult youth-in-care to participate in a clinical research study and, specifically for the Struggling Readers, to attend and complete such an intensive academic program, especially during the summer months. The small sample sizes during both cohort years attest to these concerns. However, exploration of the reasons why youth were lost from the sample revealed population-specific issues that are unrelated to enticement concerns, providing insight into the kind of struggles that youth-in-care commonly face.

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\(^6\) Winsorizing of Data: Replacing outlier data with the score closest to it in the tail of the respective distribution.

\(^7\) Note that this latter group was only an assessment group and was not involved in the intervention.
Of the 5 youth who withdrew from the reading intervention program in 2005, 2 left the program by choice. The 3 remaining youth were absent for too many intervention sessions to include their testing data in the final analysis, despite their enthusiasm for improving their reading. One of these youth, an 18 year-old male missed several classes because he was trying to secure employment to earn money as he was soon to become a father. Another of these youth, a 20 year-old male, was employed in both a day and a night job and consequently, only attended the occasional class and regularly fell asleep when present. Half way through the program this participant also had to deal with the unfortunate circumstance of losing his housing. The remaining youth, a 20 year-old male, missed classes due to a conflicting work schedule and pressing immigration issues.

The 6 youth who withdrew from the intervention program in 2009 also left due to unforeseen hardships and pressing life concerns. One of the participants was a 17 year-old male who struggled at the commencement of the program with severe social anxiety. Despite several attempts to ease his discomfort, the group environment was too overwhelming for him. It was decided collectively that it would be in his best interest to seek alternative support during the summer months. Three other males, ranging in age from 16 – 18 years, were dismissed half-way through the program due to severe behavioural concerns. Sadly, each was dealing with personal struggles (e.g., substance abuse, sexuality issues, juvenile delinquency) that undoubtedly impacted their actions during the course of the intervention. Removing these youth was a thoroughly considered and difficult decision as they were clearly victims of their circumstances and dealing with issues that required attention beyond the scope of this study. The 2 additional youth who did not complete the intervention, a 17 year-old female and an 18 year-old female, completed 2/3’s of the program before having to leave due to imminent housing issues.
From the comparison group, 3 youth from the 2005 cohort ceased to be part of the study as they were unavailable at the time of the post-test battery. The above explanations for attrition expose some of the challenges that youth-in-care face, and may also help to explain some of the reasons for initial difficulties with recruitment.

**Quantitative Findings**

The main objective of this section is to explore the overarching question of whether or not participation in a remedial literacy intervention could positively impact the lives of maltreated youth who struggle with reading. The study addressed several sub-questions pertaining to the literacy-related cognitive, academic and social-emotional profiles of victims of maltreatment and, subsequent responses to treatment, in an effort to answer this overarching question.

Reading assessments included measures of reading achievement (Word Identification - WRMT-R, Word Attack – WRMT-R, Word Identification – WRAT-3), phonological processing (Blending Words, Elision, Segmentation - CTOPP) and reading fluency (Rate, Accuracy, Fluency – GORT-4), along with 4 reading self-perception indexes (Perception Of Reading Competency, Perception Of Reading Difficulty, Attitude Toward Reading, Total Reading Self-Perception). Writing assessments included measures of Spelling (WRAT-3), Writing fluency (WJ III ACH) and writing achievement (Timed Writing Samples), as well as 4 additional self-perception constructs related to writing (reflective of Reading Self-Concept Scale). Results and discussion of reading-related measures are presented first, followed by an analysis of writing-based results.

Where possible, analyses were based on the information gathered from the 46 youth participants from the combined 2005 and 2009 cohorts (Struggling Readers, n = 24; Good
Readers, \( n = 22 \). Findings from measures added to the 2009 battery (i.e., CTOPP, GORT-4 and all writing measure) have also been included and are based on the respective smaller sample of youth-in-care (Struggling Readers, \( n = 13 \); Good Readers, \( n = 11 \)). In all cases, effect sizes have been calculated and are reported. Regardless of sign, Cohen’s \( d \) values of .2, .5, and .8 are interpreted as small, medium and large effect sizes, respectively (Green & Salkind, 2005). For non-parametric measures, effect sizes are reported as \( r \) values, where .1, .3, .5 (regardless of sign), correspond to \( d \) values representing small, medium and large effect sizes. Presentation of the research findings is organized in relation to the sub-questions that were addressed in the research.

**Reading Profiles Pre-Intervention.**

1. *Prior to intervention, will maltreated adolescents and young adults with reading difficulties display significantly lower reading skill and related self-perceptions ratings than their maltreated peers without reading difficulties?*

Based on the data collected for the 46 youth participants, independent-samples \( t \) tests or Mann-Whitney \( U \) tests were conducted to compare ratings of standardized reading measures for the two groups of maltreated youth prior to intervention. It was hypothesized that initial differences between groups on all measures related to reading would be apparent. Findings are summarized in Table 3 and presented graphically in Figure 3. As would be expected, results indicated clinically significant differences between the Good Readers \( (n = 22) \) and the Struggling Readers \( (n = 24) \) on all measures of reading achievement prior to intervention. Results from these measurements served as the basis for group delineation.
Table 3

Comparison between Youth-In-Care Struggling and Good Readers on Measures of Reading Achievement

Prior to Reading Intervention

<table>
<thead>
<tr>
<th>Measure</th>
<th>$M (SD)$ Struggling Readers ($n = 24$)</th>
<th>$M (SD)$ Good Readers ($n = 22$)</th>
<th>$t$ score (Effect Size $d$)</th>
<th>$z$ score (Effect Size $r$)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>WRMT-R</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Word Identification</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw Score</td>
<td>60.86 (12.32)</td>
<td>92.09 (4.71)</td>
<td>11.53*** (3.40)</td>
<td></td>
</tr>
<tr>
<td>Standard Score</td>
<td>58.75 (18.84)</td>
<td>98.27 (5.73)</td>
<td>-5.81*** (-1.19)</td>
<td></td>
</tr>
<tr>
<td>WRMT-R Word Attack</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw Score</td>
<td>19 (9.28)</td>
<td>38.18 (3.33)</td>
<td>9.48*** (2.80)</td>
<td></td>
</tr>
<tr>
<td>Standard Score</td>
<td>72.83 (13.82)</td>
<td>104.73 (8.83)</td>
<td>9.23*** (3.78)</td>
<td></td>
</tr>
<tr>
<td>WRAT-3 Reading</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw Score</td>
<td>32.08 (5.73)</td>
<td>46.73 (3.52)</td>
<td>-5.80*** (-.86)</td>
<td></td>
</tr>
<tr>
<td>Standard Score</td>
<td>71.54 (12.02)</td>
<td>103.50 (6.77)</td>
<td>11.23*** (4.60)</td>
<td></td>
</tr>
</tbody>
</table>

*Note.* *** Significant at the $p < .001$ level, $df = 30.82, 29.3, 44, 38.66$ respectively.
Of further interest was whether or not Struggling and Good Readers differed on essential skills related to reading achievement, namely phonological awareness and fluency skills. Based on the data collected for the 24 youth participants of the 2009 cohort, additional independent-samples $t$ tests or Mann-Whitney $U$ tests were conducted to compare ratings between the two groups on selected phonological awareness tasks from the Comprehensive Test of Phonological Processing, and on fluency measures from the Gray Oral Test of Reading. Findings are summarized below in Table 4 and presented graphically in Figures 4 and 5. Results supported anticipated trends of proficiency in phonological and fluency-based skills in favour of the Good Readers ($n = 11$). Clinically significant differences between the two groups were noted on an elision task and on all fluency components, including reading rate and reading accuracy. As well, differences in mean scaled scores between the two
groups on two phonological awareness tasks also favoured the Good Readers, though these results were not significant. Specifically, the Struggling Readers’ performance ($M = 6.62, \ SD = 3.33$) did not differ significantly from that of the Good Readers ($M = 7.46, \ SD = 2.07$) on tasks that required the youth to blend individual sounds together to make whole words ($t(22) = .73, \ p = .48, \ d = 0.30$). Likewise, the Struggling Readers’ performance ($M = 6.69, \ SD = 2.84$) did not differ significantly from that of the Good Readers ($M = 7.82, \ SD = 2.44$) on tasks that required the youth to parcel out individual sounds in whole words ($t(22) = 1.03, \ p = .31, \ d = 0.43$). Though not statistically significant, the moderate effect sizes for these results support the trend towards clinical differences between groups on skill components essential to good reading.
Table 4

Comparison between Youth-In-Care Struggling and Good Readers on Measures of Phonological Processing and Fluency Prior to Reading Intervention

<table>
<thead>
<tr>
<th>Measure</th>
<th>Struggling Readers (n = 13)</th>
<th>Good Readers (n = 11)</th>
<th>t score (Effect Size d)</th>
<th>z score (Effect Size r)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Phonological Processing</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CTOPP – Blending Words</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw Score</td>
<td>10.92 (4.54)</td>
<td>12.18 (3.06)</td>
<td>-.81 (.33)</td>
<td></td>
</tr>
<tr>
<td>Standard Score</td>
<td>6.62 (3.33)</td>
<td>7.46 (2.07)</td>
<td>.73 (.30)</td>
<td></td>
</tr>
<tr>
<td>CTOPP – Elision</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw Score</td>
<td>9.39 (3.20)</td>
<td>13.36 (5.22)</td>
<td>2.20* (.90)</td>
<td></td>
</tr>
<tr>
<td>Standard Score</td>
<td>4.77 (1.74)</td>
<td>7.09 (3.27)</td>
<td>2.12* (.87)</td>
<td></td>
</tr>
<tr>
<td>CTOPP – Segmentation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw Score</td>
<td>7.39 (4.77)</td>
<td>9.00 (4.90)</td>
<td>.82 (.34)</td>
<td></td>
</tr>
<tr>
<td>Standard Score</td>
<td>6.69 (2.84)</td>
<td>7.82 (2.44)</td>
<td>1.04 (.43)</td>
<td></td>
</tr>
<tr>
<td><strong>Fluency</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GORT-4 – Rate</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw Score</td>
<td>25.15 (10.96)</td>
<td>59.18 (9.21)</td>
<td>-4.14*** (-.90)</td>
<td></td>
</tr>
<tr>
<td>Standard Score</td>
<td>4.23 (2.05)</td>
<td>10.64 (1.96)</td>
<td>-4.03 (-.82)</td>
<td></td>
</tr>
<tr>
<td>GORT-4 – Accuracy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw Score</td>
<td>21.31 (8.99)</td>
<td>52.55 (12.75)</td>
<td>-3.65*** (-.75)</td>
<td></td>
</tr>
<tr>
<td>Standard Score</td>
<td>3.15 (1.99)</td>
<td>10.55 (3.39)</td>
<td>-3.65 (-.75)</td>
<td></td>
</tr>
<tr>
<td>GORT-4 – Fluency</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw Score</td>
<td>46.46 (19.17)</td>
<td>112.64 (21.33)</td>
<td>-3.97*** (-.81)</td>
<td></td>
</tr>
<tr>
<td>Standard Score</td>
<td>1.85 (1.46)</td>
<td>11.36 (3.76)</td>
<td>-4.05 (-.83)</td>
<td></td>
</tr>
</tbody>
</table>

* Significant at the p < .05 level.  *** Significant at the p < .001 level. df = 16.03, 14.66 respectively.
Figure 4. Differences in Phonological Awareness Mean Scaled Scores between Struggling and Good Readers Prior to Reading Intervention.

*Significance at $p < .05$, (Struggling Readers, $n = 13$; Good Readers, $n = 11$).

Figure 5. Differences in Fluency Mean Scaled Scores between Struggling and Good Readers Prior to Reading Intervention.

***Significance at $p < .001$, (Struggling Readers, $n = 13$; Good Readers, $n = 11$).
Similar tests were conducted to compare ratings on self-report measures as they relate to reading for the two groups of maltreated youth prior to intervention. It was hypothesized that, due to their higher level of reading achievement, the Good Readers \((n = 22)\) would present with higher reading self-perception ratings than the Struggling Readers \((n = 24)\). Results are presented below in Table 5 and Figure 6. This hypothesis proved correct as results indicate significant differences between the two groups on all 4 measured self-perception constructs (Perception of Reading Difficulty, Perception of Reading Competency, Attitude Toward Reading, Total Reading Self-Perception).

Table 5

*Comparison between Youth-In-Care Struggling and Good Readers on Measures of Reading Self-Concept Prior to Reading Intervention*

<table>
<thead>
<tr>
<th>Measure</th>
<th>(M (SD)) Struggling Readers ((n = 24))</th>
<th>(M (SD)) Good Readers ((n = 22))</th>
<th>(t) score (Effect Size (d))</th>
<th>(z) score (Effect Size (r))</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading Difficulty Mean Score</td>
<td>2.43 (.44)</td>
<td>3.27 (.48)</td>
<td>6.18*** (1.82)</td>
<td></td>
</tr>
<tr>
<td>Reading Competence Mean Score</td>
<td>2.75 (.69)</td>
<td>4.15 (.42)</td>
<td>8.38*** (2.47)</td>
<td></td>
</tr>
<tr>
<td>Reading Attitude Mean Score</td>
<td>2.77 (.92)</td>
<td>4.11 (.49)</td>
<td>6.21*** (1.83)</td>
<td></td>
</tr>
<tr>
<td>Reading Perception Total Mean Score</td>
<td>2.65 (.55)</td>
<td>3.85 (.33)</td>
<td>-5.44*** (-1.11)</td>
<td></td>
</tr>
</tbody>
</table>

*Note.* ***Significant at the \(p < .001\) level, \(df = 44, 38.25, 35.81\) respectively.*
Discussion of Question 1 Findings:

**Differences in Youth-In-Care’s Reading Profiles Prior to Intervention.** The results from the independent-samples $t$ tests and Mann Whitney $U$ tests supported the initial hypothesis that the Good Readers demonstrate significantly more advanced skills in reading than their counterparts. Our Good Reader sample, on almost all measures, achieved average scores, with the exception of their performance on phonological processing tasks. Interestingly, although our Good Readers were superior in skill to our sample of Struggling Readers, when compared to the test norms, our Good Readers performed in the low average range. As the literature suggests, it is possible that early psychosocial adversities could have played a detrimental role in the learning of these youth, as maltreatment has long been recognized as a critical risk factor in development and, specifically, low literacy skills (Mills et al., 2011).
Furthermore, the Struggling Reader profiles identified in this study highlight established findings that deficits in cognitive processes, including phonological and fluency-based skills, tend to lead to overall poor reading performance (e.g., Chapman & Tunmer, 2003; Corcos & Willows, 2009). Our poor reader profiles mirror those referenced in adult literacy literature which suggest that for adults who struggle with reading, poor phonological skills persist from childhood and present themselves later in life as a lack of word identification skills and fluency deficits (e.g., Chapman & Tunmer, 2000; Spear-Swerling & Sternber, 1996; Stanovich, 2000).

It is not surprising then that self-perceptions of our Struggling Readers on measures of reading difficulty, reading competency, attitude toward reading and overall reading self-concept were quite negative generally, and significantly less positive than those of the Good Readers. These findings lend support to the notion of an association between reading achievement and reading-related self-perception (Chapman & Tunmer, 2002) and suggest extension beyond application to children with reading difficulties to include maltreated adolescents and young adults.

These results highlight that poor reading skills and poor self-concept are often associated with negative cognitive and developmental outcomes. Thus, these results offer support for screening the reading skills of maltreated youth, regardless of age, to identify those who are in need of reading remediation. These results also support the value of using simple decoding tasks as screening measures and as strong indicators of reading skill.

Given their significant reading difficulties and demonstrated low self-perceptions of ability, the critical next step was to try to provide support for these often-neglected youth through skills training. Thus, of particular interest to this study was investigating whether or
not the maltreated youth with reading difficulties would make significant gains in their reading skills and self-perceptions following participation in a reading intervention program.

**Remediation – Gains in Reading Achievement & Reading Self-Perceptions.**

2. *Will the reading skill and related self-perceptions of these Struggling Readers be amenable to remediation?*

Based on the data collected on the Struggling Readers from the 2009 cohort (n = 13), repeated-measures ANOVAs or Friedman tests were conducted to determine whether mean raw and standard scores of the Struggling Readers would significantly improve following intervention. Participants were evaluated at 4 time points, of which the first three are particularly of interest to this study.

Initial baseline data for most of the selected reading measures was gathered approximately 8 weeks prior to the commencement of the intervention program (Test Point 1: baseline). Testing was also undertaken for this group just prior to the start of the intervention program (Test Point 2: pre-test). Further testing was done 7 weeks later at the end of the intervention (Test Point 3: post-test) on all of the identified reading-related measures. Struggling Readers from the 2005 cohort (n = 11) were also assessed on reading screen and perception measures at these latter two time points. Their data has been incorporated into pre-post analyses where possible. To investigate the maintenance of potential gains over time, Struggling Readers from the 2009 cohort additionally completed assessments 3 months following participation in the program (Test Point 4: follow-up).

Effect sizes for all within-subjects ANOVAs are reported for the multivariate test associated with Wilks’s lambda (Λ), namely the multivariate eta square (multivariate η²). Multivariate η² values range from 0 to 1, with 0 being interpreted as having no relation
between the repeated measures factor and the dependent variable, and 1 indicating the strongest possible relationship (Green & Salkind, 2005). Effect sizes for the Friedman Test are reported similarly, with strength-of-relationship values ranging from 0 to 1. Here, Kendall’s coefficient of concordance (Kendall’s W) is reported, with higher values indicating a stronger relationship. As well, given the clinical utility of potential results, adjustments for multiple comparisons were made using the Bonferroni procedure to protect against potential Type 1 errors.

Reading self-perception ratings were measured through pairwise comparisons using data from both the 2005 and 2009 Struggling Reader cohorts (n = 24). Effect sizes for these assessments are reported as Cohen’s d or r values.

Analysis of post-intervention reading skills and related self-perceptions are addressed separately in response to Questions 2a and 2b respectively.

a. That is, upon completion of an intensive literacy intervention program, will the Struggling Readers show significant gains in their own decoding, phonological processing and fluency skills?

Initial findings regarding reading skills are summarized below in Tables 6 and 7. Multiple one-way, within-subjects ANOVAs and Friedman Tests were conducted with the factors being test point times and the dependent variables being reading achievement, phonological processing and reading fluency scores. The results of all but one comparison indicated significant time effects, suggesting that mean raw and standard scores of almost all reading measures differed significantly between at least two testing points.
Table 6

Mean Raw and Standard Deviations for Each Time Point for the 2009 Struggling Readers on Measures of Reading Achievement

<table>
<thead>
<tr>
<th>Measure</th>
<th>Baseline Data</th>
<th>Pre-Test Data</th>
<th>Post-Test Data</th>
<th>Follow-Up Data</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>WRMT-R</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Word Identification</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw Score</td>
<td>62.85 (11.01)</td>
<td>61.54 (12.28)</td>
<td>71.31 (12.28)</td>
<td>66.62 (14.33)</td>
</tr>
<tr>
<td>Standard Score</td>
<td>65.23 (14.64)</td>
<td>63.77 (15.10)</td>
<td>74.23 (15.62)</td>
<td>67.31 (19.00)</td>
</tr>
<tr>
<td><strong>WRMT-R Word Attack</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw Score</td>
<td>18.69 (8.11)</td>
<td>18.84 (9.22)</td>
<td>28.00 (8.18)</td>
<td>23.85 (8.26)</td>
</tr>
<tr>
<td>Standard Score</td>
<td>74 (10.17)</td>
<td>74.23 (11.11)</td>
<td>85.23 (10.31)</td>
<td>79.77 (9.91)</td>
</tr>
<tr>
<td><strong>WRAT-3 Reading</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw Score</td>
<td>33.08 (4.97)</td>
<td>31.77 (4.60)</td>
<td>37.39 (6.87)</td>
<td>34.23 (5.39)</td>
</tr>
<tr>
<td>Standard Score</td>
<td>74.46 (10.65)</td>
<td>69.77 (10.71)</td>
<td>82.92 (15.13)</td>
<td>74.85 (12.66)</td>
</tr>
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<td><strong>CTOPP – Blending Words</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw Score</td>
<td>10.92 (4.54)</td>
<td>12.15 (4.90)</td>
<td>15.00 (3.61)</td>
<td>15.23 (3.77)</td>
</tr>
<tr>
<td>Standard Score</td>
<td>6.61 (3.33)</td>
<td>7.62 (3.36)</td>
<td>9.46 (2.85)</td>
<td>9.69 (3.12)</td>
</tr>
<tr>
<td><strong>CTOPP – Elision</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw Score</td>
<td>9.39 (3.20)</td>
<td>10.54 (4.81)</td>
<td>15.15 (3.24)</td>
<td>11.08 (4.80)</td>
</tr>
<tr>
<td>Standard Score</td>
<td>4.77 (1.74)</td>
<td>5.31 (2.81)</td>
<td>7.85 (2.30)</td>
<td>5.54 (2.82)</td>
</tr>
<tr>
<td><strong>CTOPP – Segmentation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw Score</td>
<td>8.08 (5.59)</td>
<td>7.39 (4.77)</td>
<td>12.31 (4.07)</td>
<td>10.15 (4.65)</td>
</tr>
<tr>
<td>Standard Score</td>
<td>6.92 (2.72)</td>
<td>6.69 (2.84)</td>
<td>9.69 (2.02)</td>
<td>7.92 (2.18)</td>
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<tr>
<td><strong>GORT-4 – Rate</strong></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw Score</td>
<td>-</td>
<td>25.15 (10.96)</td>
<td>27.85 (10.59)</td>
<td>27.54 (10.63)</td>
</tr>
<tr>
<td>Standard Score</td>
<td>-</td>
<td>4.23 (2.05)</td>
<td>4.69 (1.97)</td>
<td>4.46 (2.26)</td>
</tr>
<tr>
<td><strong>GORT-4 – Accuracy</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw Score</td>
<td>-</td>
<td>21.31 (8.99)</td>
<td>29.31 (10.30)</td>
<td>29.00 (11.94)</td>
</tr>
<tr>
<td>Standard Score</td>
<td>-</td>
<td>3.15 (1.99)</td>
<td>5.08 (2.60)</td>
<td>4.85 (2.85)</td>
</tr>
<tr>
<td><strong>GORT-4 – Fluency</strong></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw Score</td>
<td>-</td>
<td>46.46 (19.17)</td>
<td>57.15 (19.97)</td>
<td>55.77 (22.23)</td>
</tr>
<tr>
<td>Standard Score</td>
<td>1.85 (1.46)</td>
<td>2.85 (1.91)</td>
<td>2.77 (2.42)</td>
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</tr>
</tbody>
</table>

Table 7  

*Differences between Time Points for the Struggling Readers on Measures of Reading Achievement*  

<table>
<thead>
<tr>
<th>Measure</th>
<th>Wilks’s Lambda $\Lambda$</th>
<th>Df</th>
<th>$F$ score</th>
<th>$X^2$ score</th>
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</thead>
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<td>(Multivariate $\eta^2$)</td>
<td>(Kendall’s $W$)</td>
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<td><strong>WRMT-R</strong></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Word Identification</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Raw Score</td>
<td>.153</td>
<td>(3,10)</td>
<td>18.48*** (.85)</td>
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</tr>
<tr>
<td>Standard Score</td>
<td>.168</td>
<td>(3,10)</td>
<td>16.53*** (.83)</td>
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</tr>
<tr>
<td><strong>WRMT-R Word Attack</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw Score</td>
<td>.291</td>
<td>(3,10)</td>
<td>8.11** (.71)</td>
<td></td>
</tr>
<tr>
<td>Standard Score</td>
<td>.291</td>
<td>(3,10)</td>
<td>8.11** (.71)</td>
<td></td>
</tr>
<tr>
<td><strong>WRAT-3 Reading</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw Score</td>
<td>.291</td>
<td>(3,10)</td>
<td>8.11** (.71)</td>
<td></td>
</tr>
<tr>
<td>Standard Score</td>
<td>.291</td>
<td>(3,10)</td>
<td>8.11** (.71)</td>
<td></td>
</tr>
<tr>
<td><strong>CTOPP – Blending Words</strong></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw Score</td>
<td>.165</td>
<td>(3,10)</td>
<td>16.83*** (.84)</td>
<td></td>
</tr>
<tr>
<td>Standard Score</td>
<td>.143</td>
<td>(3,10)</td>
<td>20.01*** (.86)</td>
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<td><strong>CTOPP – Elision</strong></td>
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<tr>
<td>Raw Score</td>
<td>.268</td>
<td>(3,10)</td>
<td>9.09** (.73)</td>
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</tr>
<tr>
<td>Standard Score</td>
<td>.292</td>
<td>(3,10)</td>
<td>8.10** (.71)</td>
<td></td>
</tr>
<tr>
<td><strong>CTOPP – Segmentation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw Score</td>
<td>.265</td>
<td>(3,10)</td>
<td>9.24** (.74)</td>
<td></td>
</tr>
<tr>
<td>Standard Score</td>
<td>.335</td>
<td>(3,10)</td>
<td>6.61** (.67)</td>
<td></td>
</tr>
<tr>
<td><strong>GORT-4 – Rate</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw Score</td>
<td>.703</td>
<td>(2,11)</td>
<td>2.32 (.3)</td>
<td></td>
</tr>
<tr>
<td>Standard Score</td>
<td>.703</td>
<td>(2,11)</td>
<td>2.32 (.3)</td>
<td></td>
</tr>
<tr>
<td><strong>GORT-4 – Accuracy</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw Score</td>
<td>.198</td>
<td>(2,11)</td>
<td>22.25*** (.80)</td>
<td></td>
</tr>
<tr>
<td>Standard Score</td>
<td>.294</td>
<td>(2,11)</td>
<td>13.22*** (.71)</td>
<td></td>
</tr>
<tr>
<td><strong>GORT-4 – Fluency</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw Score</td>
<td>.120</td>
<td>(2,11)</td>
<td>40.23*** (.88)</td>
<td></td>
</tr>
<tr>
<td>Standard Score</td>
<td>.120</td>
<td>(2,11)</td>
<td>40.23*** (.88)</td>
<td></td>
</tr>
</tbody>
</table>

*Note.* * Significant at the $p < .05$ level, $n = 13$. ** Significant at the $p < .01$ level, $n = 13$. *** Significant at the $p < .001$ level, $n = 13$.  

It was only the comparison of reading rate scaled scores on the GORT that did not produce statistically significant results; however, these scores conveyed a small positive growth trend from the initial testing point. Raw score growth for this same construct was statistically significant. These findings are presented graphically in Figures 7 and 8.

*Figure 7. Differences in Reading Rate Mean Scaled Scores.*

Struggling Readers, $n = 13$. 
For all other cases, follow-up pairwise comparisons (paired samples t tests or Wilcoxon tests) were conducted to determine which time points differed from each other. Effect sizes for these assessments are reported as Cohen’s d or r values.

Data was first investigated for similarities between baseline and pre-test scores based on the hypothesis that reading results should reflect no significant changes during this “waiting” period. Findings are summarized below in Table 8. Results supported initial theories, showing little variation in the reading profiles for the Struggling Readers between the two time points, suggesting that reading skill remained relatively unchanged.
Indeed, all but one of the initial comparisons showed no change in reading raw and standard scores between baseline testing and pre-testing, reflecting anticipated results from a ‘no treatment’ condition. A significant difference was found, however, between the mean scaled scores on a task of Blending Words, which depicts a growth in skill from baseline to pre-test. Here, Struggling Readers’ performance appeared to advance by approximately 1 scaled score \((p < .05)\), based on an average gain of approximately 1.25 raw scores \((p = ns)\).
This increase could be due to a number of potential factors, including exposure, practice and/or chance.

In contrast, it was anticipated that there would be significant changes in measures of reading during the pre-test and post-test period as a result of intensive literacy intervention. Based on the work by Lovett, Lacerenza and Borden (2000), the Struggling Readers from both the 2005 and 2009 cohorts participated in a rigorous 7-week program. They were exposed to targeted and explicit reading instruction seen as necessary for building strong reading skills. It was hypothesized that these participants would show substantial gains in their decoding, phonological processing and fluency skills following their participation in the program. Findings are summarized below in Table 9 and 10, and presented graphically in Figures 9 through 11.

Results indicated clinically significant differences between the start and end of the program for the Struggling Readers (n = 24) on all measures of reading achievement. Personal gains were seen across all raw scores, and largely across standard scores as well (with an exception of the reading rate on the GORT as identified above, although change here approached significance with p = .053 and a moderate effect size of d = -.59). Substantial effect sizes in favour of the remediation were present for all other pairwise comparisons.
Table 9

*Comparison between Pre-Test & Post-Test Scores on Measures of Decoding*

<table>
<thead>
<tr>
<th>Measure</th>
<th>t score</th>
<th>z score</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(Effect Size d)</td>
<td>(Effect Size r)</td>
<td>(p)</td>
</tr>
<tr>
<td><strong>WRMT-R</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Word Identification</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw Score</td>
<td>-4.21*** - (1.17)</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>Standard Score</td>
<td>-4.23*** - (.95)</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td><strong>WRMT-R Word Attack</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw Score</td>
<td>-5.38*** - (-1.10)</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>Standard Score</td>
<td>-5.65*** - (-1.15)</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td><strong>WRAT-3 Reading</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw Score</td>
<td>-3.42*** - (-.67)</td>
<td>.001</td>
<td></td>
</tr>
<tr>
<td>Standard Score</td>
<td>-4.74*** - (-.97)</td>
<td>.000</td>
<td></td>
</tr>
</tbody>
</table>

*Note.* Struggling Readers (*n* = 24), *df* = 23. ***Significant at *p* < .001.

*Figure 9.* Differences in Decoding Pre-Post Mean Scaled Scores.

***Significant at *p* < .001 Struggling Readers (*n* = 24).
Specifically mean raw and standard scores for the Struggling Readers prior to intervention on normed measures of word reading and pseudoword decoding were markedly lower than their mean scores following the 7 week program. These results indicate that after having received intensive reading instruction, the maltreated youth-in-care with reading difficulties made sizable improvements, statistically and clinically, in their reading achievement skills. Similar outcomes were noted on measures of phonological awareness and reading fluency.
Table 10

Comparison between Pre-Test & Post-Test Scores on Measures of Phonological Processing and Reading Fluency

<table>
<thead>
<tr>
<th>Measure</th>
<th>t score (Effect Size d)</th>
<th>z score (Effect Size r)</th>
<th>Significance (p)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CTOPP – Blending Words</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw Score</td>
<td>-2.75* (-.76)</td>
<td>.018</td>
<td></td>
</tr>
<tr>
<td>Standard Score</td>
<td>-2.62* (-.73)</td>
<td>.023</td>
<td></td>
</tr>
<tr>
<td>CTOPP – Elision</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw Score</td>
<td>-3.73*** (-1.03)</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>Standard Score</td>
<td>-3.81** (-1.06)</td>
<td>.002</td>
<td></td>
</tr>
<tr>
<td>CTOPP – Segmentation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw Score</td>
<td>-5.29*** (-1.47)</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>Standard Score</td>
<td>-4.61*** (-1.28)</td>
<td>.001</td>
<td></td>
</tr>
<tr>
<td>GORT-4 – Rate</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw Score</td>
<td>-2.48** (-1.17)</td>
<td>.013</td>
<td></td>
</tr>
<tr>
<td>Standard Score</td>
<td>-2.14 (-.59)</td>
<td>.053</td>
<td></td>
</tr>
<tr>
<td>GORT-4 – Accuracy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw Score</td>
<td>-6.8*** (-1.89)</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>Standard Score</td>
<td>-5.25*** (-1.46)</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>GORT-4 – Fluency</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw Score</td>
<td>-8.5*** (-2.36)</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>Standard Score</td>
<td>-2.40* (-.67)</td>
<td>.016</td>
<td></td>
</tr>
</tbody>
</table>

Note. Struggling Readers (n = 13), df = 12. *Significant at $p < .05$.

Struggling Readers (n = 13), df = 12. **Significant at $p < .01$.

Struggling Readers (n = 13), df = 12. ***Significant at $p < .001$. 
Figure 10. Differences in Phonological Processing Pre-Post Mean Scaled Scores.

*Significant at $p < .05$ Struggling Readers ($n = 13$). **Significant at $p < .01$ Struggling Readers ($n = 13$).

***Significant at $p < .001$ Struggling Readers ($n = 13$).

Figure 11. Differences in Reading Fluency Pre-Post Mean Scaled Scores.

*Significant at $p < .05$ Struggling Readers ($n = 13$). **Significant at $p < .001$ Struggling Readers ($n = 13$).
Here, the blending, elision and segmentation skills of the Struggling Readers reflect significant positive increases following intervention, as does their ability to read words accurately. The Struggling Readers’ ability to read words quickly, smoothly and effortlessly was not strongly impacted by the intervention.

For comparison purposes, a paired-samples $t$ test was additionally conducted for the Struggling Reader group on a standardized measure of arithmetic to evaluate whether differences in mean scores occurred in this domain following intervention. The arithmetic measure was used to control for possible Hawthorne/Halo effects that may have arisen as a result of participating in the study. Results revealed no gains between pre and post assessment but actually reflected a significant decrease between testing points, (pre-test $M = 68.75$, $SD = 12.05$; post-test $M = 65.17$, $SD = 12.05$), $z = -1.97$, $p = .05$, $d = -0.55$, suggesting that the gains made in reading were due to treatment effects rather than possible Hawthorne or Halo effects.

**Discussion of Question 2a Findings:**

**Gains in Reading Achievement Immediately Following Intervention.** The results from the repeated measures tests and follow up pairwise comparisons supported the initial hypothesis that the Struggling Readers would make gains in their reading skills following intensive instruction in reading. Results indicated that after participation in the summer literacy program, the participants made substantial personal improvements in their ability to accurately decode real words and nonsense words. They also made noteworthy gains in their phonological awareness skills and in skills contributing to fluency. The implications of these findings are threefold: *personal, programmatic, and systemic.*
First and foremost, the participants in the study found personal success from their involvement. For many, this achievement serves as one of the youth-in-cares’ greatest to-date accomplishments (see Qualitative results). Against odds, these youth committed to a summer educational experience for no academic credit or foreseeable gain other than the potential to learn. Through their own hard work and efforts, these youth made significant personal gains in their reading skills; that in and of itself, constitutes a real and meaningful life change. On almost all measures of reading, the youth started out in the borderline to extremely low categories of skill-level, based on Wechsler’s interpretation of standard scores. In just a short period of time, the youth collectively made growth in all areas, demonstrating skill gains into the borderline, low average and even average arenas. Ultimately, it is hoped that such interventions, by reducing illiteracy, can potentially deflect these youth from negative life trajectories (Gilligan, 2000; Simos, Fletcher, Sarkari, Billingsley & Denton, 2007; Yates & Wekerle, 2009).

Programmatically, these findings suggest that despite the advanced age, severe reading deficits, and countless other life obstacles that face these youth, they benefited from the same kinds of reading interventions that research has shown to be effective with younger populations of Struggling Readers from the non-maltreated population (Lovett, Lacerenza, & Borden, 2000; National Reading Panel, 2000). As discussed earlier, research into the educational experiences of maltreated children has left little doubt that early adverse circumstances are associated with significant educational and cognitive disadvantages (Brittain, 2006; Caffo, Strik Lievers & Forresi, 2006; Carr, 2006; Mills et al., 2011; Mittic & Rimer, 2002; Perez & Spatz Widom, 1994; Richards & Wadsworth, 2004). The fact that poor reading skill has been touted as one of the most devastating long-term outcomes among various academic outcomes associated with childhood adversity (Thompson & Whimper,
2010) highlights the importance of addressing this issue in meaningful ways. The findings of this study give promise to the use of explicit reading instruction that is strategy based and phonologically driven with not only a young adult population, but with one that is considered to be part of the most vulnerable groups in our schools (Vacca, 2008). The youth made particular advancements in their word-identification and phonological awareness skills. Fluency was enhanced as a result of substantial gains in the youths’ ability to accurately read words; however, reading rate (speed and effort) remained relatively unchanged and can potentially lead to comprehension issues. Further research is suggested to explore adaptations to Lovett, Lacerenza and Borden’s PHAST program (2000) to include a stronger emphasis on fluency tasks. Though some fluency activities such as repeated readings were built into the curriculum of this program, it was not as much of a focus as was strategy and phonemic training. The structure of the program (small group, number of hours) appeared to work well.

*Systemically*, the combined personal and programmatic results suggest that for relatively little cost (financial, resources and time), older youth-in-care can and do benefit from educational programming such as the one used in this study. Much attention in the maltreatment literature has focused on younger children; however, given the understanding that adversity brings with it the risk of devastating developmental outcomes at all life stages, child welfare systems should consider making ‘skill-building’ programs a critical component to individual care plans regardless of age. Early identification screening should begin from a child’s entry point into the welfare system and continued throughout their time in care. Bringing awareness of these issues to foster families, group homes, children’s aid societies and the government will also be important so that the proper support systems can be put into place as part of children’s care. Further, building protective factors such as good reading
skills and investing in our youth can have far-reaching implications that spread beyond the individual level. A ‘healthier’ society means less cost to our health-care, correctional, and governmental systems and a narrowing of equity gaps, making our communities safer, healthier and more productive places to live.

The potential implications of these findings are far reaching. It is exciting to see how a relatively small investment can lead to such personal skill gain. The next step of this study was to see whether or not participation could move beyond educational advances and expand to include critical psychosocial changes, given the linkage between negative self-perceptions and poor overall health outcomes. To complement our academic inquiries, of particular interest to this study was investigating whether or not the maltreated youth with reading difficulties would improve their reading-related self-evaluations following reading remediation.

b.  

Further, upon completion of an intensive literacy intervention program, will the Struggling Readers show positive alterations in their perceptions of reading difficulty, competency and attitude, and display cumulative gains in their reading self-perceptions overall?

Based on the data collected on the Struggling Readers from the 2005 and 2009 cohorts (n = 24), paired sample t tests were conducted to evaluate the hypothesis that the mean scores of the Struggling Readers’ reading self-perception ratings would significantly improve following intervention (Reading Difficulty, Reading Competency, Reading Attitude, and Reading Perception Total). On these measures, participants were evaluated at 2 time points, pre-intervention and post-intervention. Findings are summarized below in Table 11.
The results of all but one comparison indicated significant time effects, suggesting that mean scores of almost all self-perception constructs differed significantly between pre and post assessment.

Table 11

Pre and Post Test Mean Scores and Standard Deviations for the Struggling Readers on Measures of Reading Self-Perceptions

<table>
<thead>
<tr>
<th>Measure</th>
<th>Pre-Test Data</th>
<th>Post-Test Data</th>
<th>t score (Effect Size d)</th>
<th>Significance (p)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading Difficulty</td>
<td>Mean Score</td>
<td>2.43 (.44)</td>
<td>2.71 (.43)</td>
<td>-2.80** (.57)</td>
</tr>
<tr>
<td>Reading Competence</td>
<td>Mean Score</td>
<td>2.75 (.69)</td>
<td>3.09 (.68)</td>
<td>-3.26** (.66)</td>
</tr>
<tr>
<td>Reading Attitude</td>
<td>Mean Score</td>
<td>2.77 (.92)</td>
<td>3.08 (.89)</td>
<td>-8.62 (-.38)</td>
</tr>
<tr>
<td>Reading Perception Total</td>
<td>Mean Score</td>
<td>2.65 (.55)</td>
<td>2.96 (.56)</td>
<td>-3.81*** (-.78)</td>
</tr>
</tbody>
</table>

Note. Struggling Readers, (n = 24), df = 23. **Significant at p < .01. Struggling Readers, (n = 24), df = 23. ***Significant at p < .001.
It was hypothesized that significant growth on measures of reading self-perception would occur from pre-test and to post-test as a result of intensive literacy instruction. Results indicated that the Struggling Readers made clinically significant improvements on almost all reading self-perception constructs following the 7 week program. Substantial effect sizes in favour of the remediation were present for all pairwise comparisons.

Specifically, the mean score for the pre-measure of Perception of Reading Difficulty was markedly lower than the mean score for this construct at post assessment. These results suggest that after having received intensive instruction in reading, the maltreated youth-in-care with reading difficulties made sizable improvements, statistically and clinically, in their self-perceptions of how difficult or problematic they perceived reading to be for themselves.

Similar outcomes were noted on a measure of Perception of Reading Competency. Here, the mean score at post-assessment reflected significant positive increases from the mean score at pre-assessment. These results suggest that following instruction, the
maltreated youth-in-care with reading difficulties made substantial improvements in their self-views of how competent they perceived themselves to be at reading.

It was only the comparison of reading attitude mean scores that did not produce statistically significant results, though these scores reflected a positive growth trend from the initial testing point \((M = 2.77, SD = .92)\) to the post-measure \((M = 3.08, SD = .89)\), \(t(23) = -8.62, p = .075, d = -0.90\).

On a measure of overall reading self-perception, the Struggling Readers made significant gains from the pre-assessment to the post assessment. These findings suggest that despite a myriad of severe disadvantages facing these adolescents and young adults from the child welfare system, their reading self-perceptions benefited from their participation in a phonologically-based reading program.

For comparison purposes, paired-samples \(t\) tests were additionally conducted for the Good Reader group (2005 cohort, \(n = 11\)) on these measures to evaluate whether changes in mean scores would occur between pre and post assessment. Good Reader self-perception pre-post results are summarized below in Table 12 and Figure 13. Results revealed no significant gains or differences between pre and post testing, suggesting the Good Readers’ reading self-perceptions remained unchanged in the control condition. These findings help support the suggestion that the gains made in reading self-perceptions for the Struggling Readers were likely due to treatment effects rather than possible Hawthorne effects.
Table 12

Pre-Post Mean Scores & Standard Deviations for Good Readers on Measures of Reading Self-Perceptions

<table>
<thead>
<tr>
<th>Measure</th>
<th>$M$ (SD) Pre-Test Data</th>
<th>$M$ (SD) Post-Test Data</th>
<th>$t$ score (Effect Size $d$)</th>
<th>Significance $(p)$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading Difficulty</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean Score</td>
<td>3.32 (.56)</td>
<td>3.20 (.57)</td>
<td>1.06 (.22)</td>
<td>.316</td>
</tr>
<tr>
<td>Reading Competence</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean Score</td>
<td>4.23 (.48)</td>
<td>4.03 (.65)</td>
<td>1.24 (.26)</td>
<td>.243</td>
</tr>
<tr>
<td>Reading Attitude</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean Score</td>
<td>4.00 (.61)</td>
<td>3.97 (.70)</td>
<td>.19 (.45)</td>
<td>.857</td>
</tr>
<tr>
<td>Reading Perception Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean Score</td>
<td>3.85 (.43)</td>
<td>3.73 (.46)</td>
<td>1.29 (.27)</td>
<td>.228</td>
</tr>
</tbody>
</table>


Figure 13. Differences in Good Reader Reading Self-Perception Pre-Post Mean Scores.

Good Readers, $n = 11$, $df = 10$. 
Discussion of Question 2b Findings:

Gains in Reading Self-Perception Ratings Immediately Following Intervention. The results from the paired-samples t tests supported the initial hypothesis that the Struggling Readers would make meaningful gains in their reading-related self-perceptions following intensive instruction in reading. These findings are in keeping with studies that suggest that skill development should have profound effects on related self-concepts (Barnett et al., 1996; Chapman & Tunmer, 2003; Pressley, 1998; Spear-Swerling & Sternber, 1996; Stanovich, 1986). Literature on the self-systems of adolescents and young adults suggests that following skill development, some youth actually become more perceptive of and attuned to their abilities and situations and adjust their self-perceptions accordingly.

Particularly interesting is the finding that the Struggling Readers became more confident in their abilities, perceiving reading to be less difficult and problematic, and viewing themselves as more competent readers. It is probable that real achievement gains that the Struggling Readers experienced may have contributed to their feelings of improved competency and ease in reading. (Discussion of the relationships between literacy skill and related self-perceptions are discussed below in response to Question 7 and explored throughout the Qualitative findings).

Further, positive gains in perceptions of reading ease and competency may be linked to the nature of the reading instruction provided. Over the course of the intervention, the Struggling Readers were exposed to a highly strategy driven curriculum and provided with explicit teaching in phonemic awareness skills. It is plausible that providing the Struggling Readers with an accessible ‘tool-kit’ for reading enhanced their confidence in their skills, helping them to feel less apprehensive of reading tasks.
As well, working through and completing several reading activities on a daily basis may have helped the Struggling Readers to feel a sense of accomplishment and progression, which may have also contributed to positive increases in their reading self-perceptions. Jinks and Lorsbach (2003) suggests that how we feel about ourselves is a direct reflection of situation-specific experiences and that these experiences motivate our behaviour and ensuing success. As is the case with skill gain, the positive increases in self-evaluation are in and of itself a real and meaningful change for these youth. These increases may also serve as a much needed catalyst by providing the youth with the means and motivation for redirecting maladaptive trajectories.

Increases in scores related to the Struggling Readers’ attitudes toward reading were also observed, though not significantly changed statistically. This finding is less surprising given the fact that the Struggling Readers remain ‘Struggling Readers’. Though they made great strides in their achievements, the youth participants were still performing at levels below those of their peers who do not struggle with reading. Thus, it is understandable that one would be less likely to enjoy something that they find difficult to do. The critical next step would be to help build a ‘love of reading’ through future programming and planning. These traits appear to come about from reading high interest materials (see Discussion of Category 1 Qualitative Results), which albeit important, was not a primary focus of this study. As well, research from the National Reading Panel (2000) suggests that sustained periods of reading do not appear to be related to increases in enjoyment of reading. As such, it seems that further research is needed to truly address the development of more positive attitudes towards reading.

In general, the trend of positive increases in overall reading self-perception was present. There is no doubt that these youth still find reading difficult and that their
perceptions of their skills reflect these challenges, but the fact that gains were made, clinically and statistically, is hopeful.

**Reading Profiles Post-Intervention.**

3. Given an initial difference in reading skill and related perception profiles, will the struggling maltreated readers have more similar ratings to those of the maltreated youth without reading difficulties following intervention?

Based on the available data collected for the Good Reader and Struggling Reader youth participants, independent-samples $t$ tests or Mann-Whitney $U$ tests were conducted to compare ratings on reading measures for the two groups of maltreated youth following remediation. Given initial differences between the groups on almost all measures of reading prior to intervention, it was hoped that the reading profiles of the Struggling Readers would more closely resemble those of their Good Reader counterparts following participation in the intensive summer literacy program. Findings are summarized in Table 13 and presented graphically in Figure 14. Despite personal growth in reading achievement as discussed above, results of these comparisons continued to show significant differences between the Good Readers ($n = 22$) and the Struggling Readers ($n = 24$) on measures of word and pseudoword reading.
Table 13

Comparisons between Youth-In-Care Struggling & Good Readers on Measures of Reading

Achievement Following Reading Intervention

<table>
<thead>
<tr>
<th>Measure</th>
<th>Struggling Readers (n = 24)</th>
<th>Good Readers (n = 22)</th>
<th>t score</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M (SD)</td>
<td>M (SD)</td>
<td>(Effect Size d)</td>
</tr>
<tr>
<td>WRMT-R</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Word Identification</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw Score</td>
<td>69.83 (12.02)</td>
<td>92.09 (4.71)</td>
<td>8.4*** (3.44)</td>
</tr>
<tr>
<td>Standard Score</td>
<td>69.63 (18.51)</td>
<td>98.27 (5.73)</td>
<td>7.21*** (2.95)</td>
</tr>
<tr>
<td>WRMT-R Word Attack</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw Score</td>
<td>25.38 (8.6)</td>
<td>38.18 (3.33)</td>
<td>6.77*** (2.77)</td>
</tr>
<tr>
<td>Standard Score</td>
<td>81.42 (12.21)</td>
<td>104.73 (8.83)</td>
<td>7.36*** (3.02)</td>
</tr>
<tr>
<td>WRAT-3 Reading</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw Score</td>
<td>36.21 (6.49)</td>
<td>46.73 (3.52)</td>
<td>6.91*** (2.83)</td>
</tr>
<tr>
<td>Standard Score</td>
<td>80.79 (14.51)</td>
<td>103.50 (6.77)</td>
<td>6.89*** (2.82)</td>
</tr>
</tbody>
</table>

Note. *** Significant at p < .001 level, df = 30, 28, 30, 44, 36, 33 respectively.

Figure 14. Differences in Reading Achievement Mean Standard Scores between Struggling & Good Readers Prior to & Following Reading Intervention.

**** Significance at p < .001, (Struggling Readers, n = 24; Good Readers, n = 22).
As well, of interest was whether or not Struggling and Good Readers would continue to differ on phonological awareness and fluency skills. Based on the data collected for the 24 youth participants who were part of the 2009 cohort, additional comparisons were conducted to determine if intervention may have helped narrow the reading gap between initial good versus poor reader profiles. These findings are summarized below in Table 14 and presented graphically in Figures 15 and 16.

Of particular note was the growth in the Struggling Readers’ phonological reading skills, so much so that they surpassed the initial scores of the Good Readers. Here, trends of proficiency in phonologically-based tasks appeared to invert and favour the Struggling Readers following intervention \((n = 13)\). As it was at pre-assessment, the Struggling Readers’ performances on a task that required the youth to blend individual sounds together to make whole words and on a task that required the youth to parcel out individual sounds in whole words continued to remain statistically comparable, though reflective of positive growth. Likewise, the participants’ elision skills at post-assessment were no longer significantly different from those of the Good Readers, though reflective of more advanced skill.

In contrast, clinically significant differences between groups remained on all fluency components, including reading rate and reading accuracy. On these tasks, the Good Readers remained superior in ability over the Struggling Readers.
Table 14

Comparisons between Youth-In-Care Struggling & Good Readers on Measures of Phonological Processing and Fluency Following Reading Intervention

<table>
<thead>
<tr>
<th>Measure</th>
<th>Struggling Readers</th>
<th>Good Readers</th>
<th>$t$ score (Effect Size $d$)</th>
<th>$z$ score (Effect Size $r$)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$M$ ($SD$)</td>
<td>$M$ ($SD$)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CTOPP – Blending Words</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw Score</td>
<td>15.00 (3.61)</td>
<td>12.18 (3.06)</td>
<td>-2.04 (-.84)</td>
<td></td>
</tr>
<tr>
<td>Standard Score</td>
<td>9.46 (2.85)</td>
<td>7.46 (2.07)</td>
<td>-1.94 (-.79)</td>
<td></td>
</tr>
<tr>
<td>CTPPP – Elision</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw Score</td>
<td>15.15 (3.24)</td>
<td>13.36 (5.22)</td>
<td>-.99 (-.41)</td>
<td></td>
</tr>
<tr>
<td>Standard Score</td>
<td>7.85 (2.30)</td>
<td>7.09 (3.27)</td>
<td>-.64 (-.26)</td>
<td></td>
</tr>
<tr>
<td>CTPPP – Segmentation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw Score</td>
<td>12.31 (4.07)</td>
<td>9.00 (4.90)</td>
<td>-1.81 (-.74)</td>
<td></td>
</tr>
<tr>
<td>Standard Score</td>
<td>9.69 (2.02)</td>
<td>7.82 (2.44)</td>
<td>-2.06 (-.84)</td>
<td></td>
</tr>
<tr>
<td>GORT-4 – Rate</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw Score</td>
<td>27.85 (10.59)</td>
<td>59.18 (9.21)</td>
<td>-4.06*** (.83)</td>
<td></td>
</tr>
<tr>
<td>Standard Score</td>
<td>4.69 (1.97)</td>
<td>10.64 (1.96)</td>
<td>-3.97*** (.81)</td>
<td></td>
</tr>
<tr>
<td>GORT-4 – Accuracy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw Score</td>
<td>29.31 (10.30)</td>
<td>52.55 (12.75)</td>
<td>-3.57*** (.73)</td>
<td></td>
</tr>
<tr>
<td>Standard Score</td>
<td>5.08 (2.60)</td>
<td>10.55 (3.39)</td>
<td>-3.37*** (.69)</td>
<td></td>
</tr>
<tr>
<td>GORT-4 – Fluency</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw Score</td>
<td>57.15 (19.97)</td>
<td>112.64 (21.33)</td>
<td>-3.71*** (.76)</td>
<td></td>
</tr>
<tr>
<td>Standard Score</td>
<td>2.85 (1.91)</td>
<td>11.36 (3.76)</td>
<td>-3.73*** (.76)</td>
<td></td>
</tr>
</tbody>
</table>

*Note.* ***Significant at the $p < .001$ level. $t$ score, $df = 22, 22, 16, 18, 22, 22$ respectively.*
Figure 15. Differences in Phonological Awareness Mean Scaled Scores between Struggling & Good Readers Prior to & Following Reading Intervention.

Struggling Readers, n = 13; Good Readers, n = 11.

Figure 16. Differences in Fluency Mean Scaled Scores between Struggling & Good Readers Prior to & Following Reading Intervention.

***Significance at p < .001, (Struggling Readers, n = 13; Good Readers, n = 11).
Similar tests were conducted to compare ratings on self-report measures related to reading for the two groups of maltreated youth following the Struggling Readers’ participation in the literacy intervention. It was hypothesized that following program involvement, the Struggling Readers \((n = 24)\) would present with reading self-perception ratings that more closely matched those of the Good Reader group \((n = 22)\). Findings are presented below (see Table 15, Figure 17). Positive trends toward improved perceptions for the Struggling Readers were noted from the paired-samples \(t\) tests findings described above and are revealed in the comparison of the Struggling Readers’ post perception mean scores to that of the Good Readers’ perception mean scores. Despite these positive advances, results indicated that significant differences between the two groups on all 4 measured self-perception constructs (Perception of Reading Difficulty, Perception of Reading Competency, Attitude Toward Reading, Total Reading Self-Perception) remained at post assessment.
### Table 15

**Comparison between Youth-In-Care Struggling & Good Readers on Measures of Reading Self-Concept Prior to & Following Reading Intervention**

<table>
<thead>
<tr>
<th>Measure</th>
<th>Struggling Readers (n = 24)</th>
<th>Good Readers (n = 22)</th>
<th>t score (Effect Size d)</th>
<th>z score (Effect Size r)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Reading Difficulty</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean Score</td>
<td>2.71 (.43)</td>
<td>3.27 (.48)</td>
<td>4.22*** (1.73)</td>
<td></td>
</tr>
<tr>
<td><strong>Reading Competence</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean Score</td>
<td>3.09 (.68)</td>
<td>4.15 (.42)</td>
<td>6.41*** (2.63)</td>
<td></td>
</tr>
<tr>
<td><strong>Reading Attitude</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean Score</td>
<td>3.08 (.89)</td>
<td>4.11 (.49)</td>
<td>4.93*** (2.02)</td>
<td></td>
</tr>
<tr>
<td><strong>Reading Perception Total</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean Score</td>
<td>2.96 (.56)</td>
<td>3.85 (.33)</td>
<td>-4.8*** (-.98)</td>
<td></td>
</tr>
</tbody>
</table>

**Note.** *** Significant at the p < .001 level; t score, df = 44, 39.37 respectively.

![Figure 17](image.png)

**Figure 17.** Differences in Reading Self-Perception Mean Scores between Struggling and Good Readers Prior to Reading Intervention.

***Significance at p < .001, (Struggling Readers, n = 13; Good Readers, n = 11).
Discussion of Question 3 Findings:

Differences in Youth-In-Care Reading Profiles Following Intervention. Encouraging results from the independent-samples tests showed that, following their participation in the reading intervention program, the Struggling Readers from the child welfare system were able to make gains in their reading skills and related perceptions that better reflected those of youth-in-care with greater reading aptitude. Though statistically significant differences between the Struggling Readers and Good Readers groups still remained on several measures, the general trend towards Good Reader profiles suggests that the Struggling Readers’ response to treatment was positive and moving in the right direction. In fact, surprisingly, the Struggling Readers’ gains in phonological processing skills were so great that these scores were not only statistically on par with those of the Good Readers, but they surpassed them. Results of these comparisons are particularly encouraging as they lend support to the effectiveness of an intervention program that focuses on the ‘drill and practice’ of sound phonologically-based skills for these youth in spite of older age, severe skill deficits, and numerous life hurdles. It is plausible that the high concentration of specific sound-based techniques from the PHAST program like ‘Sounding Out’, ‘Rhyming’ and ‘Vowel Alert’, and decoding strategies like ‘I Spy’ and ‘Peeling Off’, contributed to the immense gains achieved by the Struggling Readers, bringing them closer and closer to the skills of youth who have less difficulty with reading. Despite many years of failure, only 7 weeks of evidence-informed intervention resulted in remarkable gains for these youth. Thus it can be speculated that further practice, application and extension of strategy work (e.g., specific fluency and comprehension techniques) might further help to develop such
skills. In the interim, findings provide a solid springboard for clinical practice and can contribute to the growing body of literature on adult literacy remediation practices.

Similarly, although the Struggling Readers’ post self-evaluations did not reach the level of the Good Readers’ ratings, movement towards increased positive self-perceptions in these areas were present none-the-less. These results additionally lend support to the suggestion that exposing maltreated youth Struggling Readers to a specialized reading program that attempts to demystify the process of reading through sound strategy instruction, may increase the likelihood that these readers will alter negative cognitions and subsequent maladaptive thinking and behaviour.

**Writing Profiles Pre-Intervention.** Following the reading intervention of 2005, it became apparent to the researcher that the writing skills of these youth were likely to be as underdeveloped, if not more so, and in dire need of support. Like reading, writing is a necessary skill for living in Canada, yet writing performance remains significantly below the levels needed for success in today’s society (Mason & Graham, 2008). The literature suggests that the writing skills of older North American students, in general, have not kept pace with the increasing demands of today’s information age. Given the known impact of maltreatment on the educational development of youth with histories of abuse, it can be speculated that their writing skills offer no exception to this trend. Yet no known research to date has looked at the writing profiles of older youth-in-care, or the potential for anticipated deficits to be responsive to remediation. Hence, the following section explores these matters with the hope of shedding light on an all-too-often overlooked population and under-addressed problem.
4. Prior to intervention, will maltreated adolescents and young adults with reading difficulties display significantly lower writing skill and writing related self-perceptions ratings than their maltreated peers without reading difficulties?

Based on the data collected for the youth participants from the 2009 cohort, independent-samples t tests or Mann-Whitney U tests were conducted to compare ratings between the Struggling Readers and Good Readers on standardized and dynamic measures of writing prior to intervention. One participant from the original group of 13 Struggling Readers was excluded from all writing analyses, as he had to decline from the writing component of the literacy intervention due to a conflict of scheduling with his primary place of employment. For the remaining participants (n = 23), it was hypothesized that initial differences between Struggling and Good Reader groups would be evident on all measures related to writing. Findings are summarized in Table 16 and presented graphically in Figure 18. Similar to initial reading profiles, results indicated clinically significant differences between the Struggling Readers (n = 12) and the Good Readers (n = 11) on standardized measures of writing achievement, namely spelling and writing fluency, prior to intervention.
Table 16

Comparison between Youth-In-Care Struggling & Good Readers on Measures of Writing Achievement

Prior to Reading Intervention

<table>
<thead>
<tr>
<th>Measure</th>
<th>Struggling Readers (n = 13)</th>
<th>Good Readers (n = 11)</th>
<th>t score (Effect Size d)</th>
</tr>
</thead>
<tbody>
<tr>
<td>WRAT-3 Spelling</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw Score</td>
<td>28.46 (5.16)</td>
<td>43 (2.65)</td>
<td>8.88*** (3.64)</td>
</tr>
<tr>
<td>Standard Score</td>
<td>71.85 (12.44)</td>
<td>104 (6.02)</td>
<td>8.25*** (3.38)</td>
</tr>
<tr>
<td>WJ III ACH Fluency</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw Score</td>
<td>17.54 (5.91)</td>
<td>24.36 (7.45)</td>
<td>2.5* (1.02)</td>
</tr>
<tr>
<td>Standard Score</td>
<td>81.46 (12.66)</td>
<td>93.18 (11.25)</td>
<td>2.38* (.98)</td>
</tr>
</tbody>
</table>

Note. * Significant at $p < .05$, df = 22. *** Significant at $p < .001$, df = 18.

Figure 18. Differences in Writing Achievement Mean Standard Scores between Struggling & Good Readers Prior to Writing Intervention.

*Significant at $p < .05$; *** Significance at $p < .001$, (Struggling Readers, n = 13; Good Readers, n = 11).
Of further interest was whether or not Struggling and Good Readers differed on essential skills related to writing, evaluated through curriculum based measurement (CBM) techniques and the application of a developed rubric on timed writing samples. Additional independent-samples $t$ tests or Mann-Whitney $U$ tests were conducted to compare ratings on these writing measures between the two groups. Score differences between the two groups on CBM and Rubric ratings are summarized below in Table 17 and presented graphically in Figures 19 and 20. In most instances, results supported anticipated trends of proficiency in essential skill components in favour of the Good Readers.

On the CBM tasks, clinically significant differences were noted on advanced measures of writing proficiency. These measures included the proportion of correct word sequences produced (CWS), an accuracy indicator calculated by subtracting the number of correct word sequences from the number of incorrect word sequences (CMIC), and on a measure of vocabulary as assessed by the number of 7-letter words used in the sample (VOC). Differences in mean scores on more rudimentary measures of writing also favoured the Good Readers. These measures included the total number of words written (TWW), the proportion of words spelled correctly in the sample (WSC), and the total possible number of correct word sequences (TPCWS) produced; however, these results did not vary significantly between samples. The means for the Struggling Reader group are below those of the Good Reader group in all cases and although not statistically significant, the moderate effect sizes for these results support the suggestion that there are clinical differences between groups on skill components essential to good writing.

Holistic ratings also indicated substantial differences between the two groups in key components of text composition and construction. Here, the Good Readers significantly outperformed the Struggling Readers on all but one writing construct. Specifically, the Good
Readers demonstrated more sophisticated writing samples by providing highly relevant details and examples in their compositions, coherent and smooth sequencing of ideas throughout, stronger beginnings and endings, and overall more interesting, engaging, and well-crafted pieces of writing. In contrast, the Struggling Reader samples were less consistent, demonstrating underdeveloped skills in each of these areas. Where the two groups did not differ significantly was in their ability to develop a topic of main ideas.
Table 17

Comparison between Youth-In-Care Struggling and Good Readers on Dynamic Measures of Writing Prior to Writing Intervention

<table>
<thead>
<tr>
<th>Measure</th>
<th>Struggling Readers $(n = 12)$</th>
<th>Good Readers $(n = 11)$</th>
<th>t score (Effect Size $d$)</th>
<th>z score (Effect Size $r$)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Writing Sample 1 - CBM</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Words Written</td>
<td>83.58 (38.66)</td>
<td>107.91 (42.97)</td>
<td>1.43 (.59)</td>
<td></td>
</tr>
<tr>
<td>% Words Spelled Correctly</td>
<td>89.87 % (15.72)</td>
<td>97.11 % (2.36)</td>
<td></td>
<td>-1.63 (-.33)</td>
</tr>
<tr>
<td>Total Possible Sequences</td>
<td>89.25 (40.62)</td>
<td>114.00 (45.83)</td>
<td>1.37 (.56)</td>
<td></td>
</tr>
<tr>
<td>% Correct Word Sequences</td>
<td>68.45 % (23.41)</td>
<td>87.54 % (4.62)</td>
<td></td>
<td>-2.71** (-.55)</td>
</tr>
<tr>
<td>Correct Minus Incorrect</td>
<td>41.42 (32.88)</td>
<td>87.09 (40.18)</td>
<td>3.00*** (1.23)</td>
<td></td>
</tr>
<tr>
<td>Total 7 Letter Words</td>
<td>3.92 (2.61)</td>
<td>15.27 (7.34)</td>
<td></td>
<td>4.86*** (1.99)</td>
</tr>
<tr>
<td><strong>Writing Sample 1 - Rubric</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Message</td>
<td>2.08 (1)</td>
<td>2.55 (.93)</td>
<td></td>
<td>-1.41 (-.29)</td>
</tr>
<tr>
<td>Details</td>
<td>1.83 (.94)</td>
<td>2.73 (.65)</td>
<td></td>
<td>-2.52** (-.51)</td>
</tr>
<tr>
<td>Sequencing</td>
<td>1.33 (.89)</td>
<td>3.00 (.00)</td>
<td></td>
<td>6.50*** (2.66)</td>
</tr>
<tr>
<td>Beginning</td>
<td>1.92 (.67)</td>
<td>2.64 (.67)</td>
<td></td>
<td>-2.69** (-.55)</td>
</tr>
<tr>
<td>Ending</td>
<td>1.25 (.87)</td>
<td>2.36 (.67)</td>
<td></td>
<td>3.41** (1.40)</td>
</tr>
<tr>
<td>Holistic Impression</td>
<td>1.42 (.67)</td>
<td>2.55 (.69)</td>
<td></td>
<td>-3.15** (-.64)</td>
</tr>
<tr>
<td>Overall Writing Score</td>
<td>9.83 (4.24)</td>
<td>15.73 (2.37)</td>
<td></td>
<td>-3.61*** (-.51)</td>
</tr>
</tbody>
</table>

*Note.* ** Significant at the $p < .01$ level, $df = 21$ respectively. *** Significant at the $p < .001$ level, $df = 12, 11$ respectively.
Figure 19. Differences in Curriculum Based Measurement Scores between Struggling & Good Readers Prior to Writing Intervention.

**Significant at $p < .01$. Struggling Readers, $n = 12$; Good Readers, $n = 11$.**
Figure 19 (continued). Differences in Curriculum Based Measurement Scores between Struggling & Good Readers Prior to Writing Intervention.

***Significant at $p < .001$. Struggling Readers, $n = 12$; Good Readers, $n = 11$.

Figure 20. Differences in Writing Rubric Scores between Struggling & Good Readers Prior to Writing Intervention.

** Significant at $p < .01$, Struggling Readers, $n = 12$; Good Readers, $n = 11$. ***Significant at $p < .001$, Struggling Readers, $n = 12$; Good Readers, $n = 11$.

Similar tests to compare ratings on self-report measures related to writing were conducted for the two groups of maltreated youth prior to intervention. It was hypothesized
that, due to their anticipated higher level of writing achievement, the Struggling Readers \((n = 13)\) would present with lower writing-related self-perception ratings than the Good Readers \((n = 11)\). Results are presented below in Table 18 and Figure 21. Results support this hypothesis and indicated significant differences between the two groups on all 4 measured self-perception constructs (Perception of Writing Difficulty, Perception of Writing Competency, Attitude Toward Writing, Total Writing Self-Perception).

Table 18

*Comparison between Youth-In-Care Struggling & Good Readers on Measures of Writing Self-Concept Prior to Writing Intervention*

<table>
<thead>
<tr>
<th>Measure</th>
<th>( M (SD) ) Struggling Readers ((n = 13))</th>
<th>( M (SD) ) Good Readers ((n = 11))</th>
<th>( t ) score ((Effect Size d))</th>
</tr>
</thead>
<tbody>
<tr>
<td>Writing Difficulty</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean Score</td>
<td>2.29 (.65)</td>
<td>3.03 (.59)</td>
<td>2.88** (1.18)</td>
</tr>
<tr>
<td>Writing Competence</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean Score</td>
<td>2.46 (.63)</td>
<td>3.83 (.51)</td>
<td>5.8*** (2.23)</td>
</tr>
<tr>
<td>Writing Attitude</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean Score</td>
<td>2.53 (.64)</td>
<td>3.79 (.65)</td>
<td>4.76*** (1.95)</td>
</tr>
<tr>
<td>Writing Perception Total</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean Score</td>
<td>2.43 (.46)</td>
<td>3.55 (.51)</td>
<td>5.65*** (2.31)</td>
</tr>
</tbody>
</table>

*Note.* ** Significant at \(p < .01\), \(df = 22\). *** Significant at \(p < .001\), \(df = 22\).
Discussion of Question 4 Findings:

Differences in Youth-In-Care’s Writing Profiles Prior to Intervention. Studies of writing profiles of adolescents and young adults are starting to surface more frequently in literature. In 2003, the National Commission on Writing called for a “writing revolution”; practitioners are now recognizing this idea as being more and more of grave importance. However, the fact remains that relatively little is known about the writing skills of our youth, or about gold-standard treatment protocols and effective assessment measures. Even less is known about these areas when considered in the context of vulnerable youth populations.

At the outset of the present study, no known research had been conducted to investigate what writing might look like for maltreated youth or what remediation strategies might be best applied. Thus, the results from this exploratory inquiry are valuable, as they
help to paint a portrait of the writing profiles of adolescents, of Struggling Readers, and of youth from the Child Welfare System.

Results from the independent-samples $t$ tests and Mann Whitney $U$ tests supported the initial hypothesis that the Struggling Readers would demonstrate significantly lower skills in writing than that of their counterparts. On standardized measures of spelling and writing achievement, the Good Readers performed in the average range when compared to same-aged peers (based on Wechsler’s standard scores). In contrast, the Struggling Readers found these tasks to be substantially more difficult, performing in the borderline range on the spelling task and in the low average range on the writing fluency measure. This revelation is unfortunate but not surprising given that skill deficits in reading often are accompanied by significant problems in writing (Berninger et al., 2008; Mason & Graham, 2008). As with reading, the Struggling Reader profiles identified here highlight findings that deficits in cognitive processes, like phonological coding and fluency, tend to be associated with overall poor writing performance (Chapman & Tunmer, 2003; Corcos & Willows, 2009).

Further disparities were observed between the Struggling Readers and the Good Readers on the curriculum based measurements, which when taken together provide a comprehensive look into key syntactical and grammatical components of writing. Interestingly, the Struggling Readers and the Good Readers did not differ significantly on the number of words that they wrote in their samples, in the proportion of words they spelled correctly or the total number of possible word sequences that they produced (production-dependent indices). It appeared that when provided with 10 minutes to write a response to the composition prompt, both groups wrote approximately the same amount and with relatively few spelling mistakes. However, in the interpretation of these results, it is important to note that the sophistication of applied sentence combinations and lexicons are
not accounted for in these particular evaluations. Thus, the writers could have written simple pieces with simple language, maximizing their success in these areas. Significant differences were apparent, however, on more advanced measures of writing, including the proportion of correct word sequences produced, a cumulative accuracy-production indicator of writing expression – correct minus incorrect word sequences, and vocabulary usage. These latter results are in keeping with CBM research that suggests that these more complex scoring procedures are more predictive of higher order writing skills in adolescent writers and of differences between groups (McMaster, Du, & Pétursdóttir, 2009).

Results from the writing rubric further highlight the inherent disparities between the writing skills of the Struggling and Good Readers. Significant differences in text composition and construction were apparent in the detailing of written pieces, sequencing of ideas, framing of compositions (beginnings and endings), and overall appeal of written work. These findings are consistent with the work of Mason and Graham (2008) which has found that low achieving writers produce compositions that are less coherent and effective compared to those of good writers, and as such, are evidence of the persistence of writing difficulties that go untreated (McMaster, & Espin, 2007). Where the two groups did not differ significantly was in their ability to follow through with the composition prompt and develop a topic of main ideas (Message).

Given apparent difficulties with writing that the Struggling Readers face, it is understandable that their perceptions of writing difficulty, writing competency, attitude toward writing and overall writing self-concept were uniformly negative and significantly lower than those of the Good Readers. Using the literature on adolescent self-systems as a guide (Chapman & Tunmer, 2002), these findings suggest a likely association between writing achievement and related self-systems factors (see Question 7).
The combination of poor reading skills with poor writing skills, in addition to related self-perceptions of youth who have already faced ample stress in their lives, makes the notion of resiliency seem distant and ideal. It is not surprising that the developmental course for these youth is often risky and unkind. Learning about the literacy profiles of maltreated youth emphasizes the importance of early and ongoing screening of academic skills to identify those at risk of failure and in need of remediation. Early identification and intervention of adolescents and young adults at risk of writing difficulties could prevent long-term problems for many of these youth (Berninger, Nielsen, Abbott, Wijsman, & Raskind, 2008; Berninger et al., 2006). Results lend support for the use of simple writing tasks (e.g., spelling) and dynamic procedures (e.g., CBM) as screening measures and strong indicators of writing skill.

As was the case with reading deficits, the critical next step is to try to create meaningful change in the lives of these often neglected youth. Skills-training appears to be an accessible, tangible, and plausible means for doing so. Thus, of great interest to this study was investigating whether or not the maltreated youth with reading difficulties would make significant gains in their writing skills and writing self-perceptions following participation in a writing intervention program.

**Remediation – Gains in Writing Achievement & Writing Self-Perceptions.**

5. *Will the writing skill and writing-related self-perceptions of the Struggling Readers be amenable to remediation?*

Based on the data collected on the Struggling Readers from the 2009 writing cohort (*n* = 12), repeated-measures ANOVAs or Friedman tests were conducted to evaluate the
hypotheses that writing achievement mean scores would significantly improve following intervention. Participants were evaluated at 4 intervals, the first three of which are particularly of interest to this study.

Baseline data for the Struggling Readers on standardized writing measures was gathered concurrently with the reading measures, approximately 8 weeks prior to the commencement of the intervention program (Test Point 1: baseline). Testing continued on these measures for the Struggling Readers just prior to the start of the intervention program (Test Point 2: pre-test) and again, 7 weeks later at the end of the intervention (Test Point 3: post-test). Dynamic measures of writing (timed writing samples) were also gathered to evaluate written expression skills. The first writing sample was administered prior to the commencement of the intervention (pre-test). The second sample was collected three weeks into the intervention and the third sample was collected at the end of the intervention (post-test). To investigate the maintenance of potential gains over time, Struggling Readers additionally completed all writing assessments 3 months following participation in the program (Test Point 4: follow-up).

As was the case with appropriate reading analyses, effect sizes for all within-subjects ANOVAs are reported for the multivariate test associated with Wilks’s lambda ($\Lambda$), namely the multivariate eta square (multivariate $\eta^2$). Multivariate $\eta^2$ values range from 0 to 1, with 0 being interpreted as having no relation between the repeated measures factor and the dependent variable and 1 indicating the strongest possible relationship (Green & Salkind, 2005). Effect sizes for the Friedman test are reported similarly, with strength-of-relationship values ranging from 0 to 1. Here, Kendall’s coefficient of concordance (Kendall’s $W$) is reported, with higher values indicating a stronger relationship. As well, given the clinical
utility of potential results, adjustments for multiple comparisons were made using the Bonferroni procedure to ward against potential Type 1 errors (Green & Salkind, 2005).

Writing self-perception ratings were measured through pairwise comparisons using data from the 2009 Struggling Reader writing cohort (n = 12). Effect sizes for these assessments are reported as Cohen’s $d$ or $r$ values.

Analysis of post-intervention writing skill and related self-perceptions are addressed separately in response to Questions 5a and 5b respectively.

\[ a. \text{ That is, upon completion of an intensive literacy intervention program, will the} \]

\[ \text{Struggling Readers show significant gains in their spelling, fluency, and text} \]

\[ \text{composition skills?} \]

Initial findings regarding measures of writing achievement across testing intervals are summarized below in Tables 19 through 21.
Table 19

Mean Raw & Standard Deviations for Each Time Point for the 2009 Struggling Readers on Standardized Measures of Writing

<table>
<thead>
<tr>
<th>Measure</th>
<th>M (SD)</th>
<th>M (SD)</th>
<th>M (SD)</th>
<th>M (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Baseline Data</td>
<td>Pre-Test Data</td>
<td>Post-Test Data</td>
<td>Follow-Up Data</td>
</tr>
<tr>
<td>WRAT-3 Spelling</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw Score</td>
<td>25.85 (4.51)</td>
<td>28.46 (5.16)</td>
<td>30.15 (6.3)</td>
<td>29.46 (4.61)</td>
</tr>
<tr>
<td>Standard Score</td>
<td>68.31 (8.18)</td>
<td>71.85 (12.44)</td>
<td>77.85 (13.43)</td>
<td>73.39 (11.19)</td>
</tr>
<tr>
<td>WJ III ACH Fluency</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw Score</td>
<td>15.92 (4.52)</td>
<td>17.54 (5.91)</td>
<td>18.00 (5.64)</td>
<td>17.77 (4.34)</td>
</tr>
<tr>
<td>Standard Score</td>
<td>78.08 (9.24)</td>
<td>81.46 (12.66)</td>
<td>82.69 (12)</td>
<td>82.31 (8.82)</td>
</tr>
</tbody>
</table>

*Note.* Struggling Readers, *n* = 12.
### Table 20

**Mean Raw & Standard Deviations for Each Time Point for the 2009 Struggling Readers on Timed Writing Samples**

<table>
<thead>
<tr>
<th>Measure</th>
<th>Sample 1 (Pre) M (SD)</th>
<th>Sample 2 (During) M (SD)</th>
<th>Sample 3 (Post) M (SD)</th>
<th>Sample 4 (Follow Up) M (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CBM – Writing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Words Written</td>
<td>83.58 (38.66)</td>
<td>63.00 (25.31)</td>
<td>102.08 (23.64)</td>
<td>94.50 (31.12)</td>
</tr>
<tr>
<td>% Words Spelled Correctly</td>
<td>89.87 % (15.72)</td>
<td>82.50% (26.49)</td>
<td>91.28% (4.13)</td>
<td>90.48% (12.86)</td>
</tr>
<tr>
<td>Total Possible Sequences</td>
<td>89.25 (40.62)</td>
<td>67.75 (27.06)</td>
<td>109.00 (25.46)</td>
<td>100.50 (32.46)</td>
</tr>
<tr>
<td>% Correct Word Sequences</td>
<td>68.45 % (23.41)</td>
<td>64.48% (23.2)</td>
<td>73.58% (17.64)</td>
<td>68.03% (20.49)</td>
</tr>
<tr>
<td>Correct Minus Incorrect</td>
<td>41.42 (32.88)</td>
<td>25.83 (15.02)</td>
<td>60.17 (20.40)</td>
<td>47.33 (35.56)</td>
</tr>
<tr>
<td>Total 7 Letter Words</td>
<td>3.92 (2.61)</td>
<td>2.75 (2.09)</td>
<td>5.75 (3.39)</td>
<td>5.08 (2.64)</td>
</tr>
<tr>
<td>Writing Rubric</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Message</td>
<td>2.08 (1)</td>
<td>2.17 (.94)</td>
<td>2.33 (.89)</td>
<td>2.67 (.49)</td>
</tr>
<tr>
<td>Details</td>
<td>1.83 (.94)</td>
<td>2.08 (1.08)</td>
<td>2.00 (.85)</td>
<td>2.75 (.45)</td>
</tr>
<tr>
<td>Sequencing</td>
<td>1.33 (.89)</td>
<td>2.00 (1.13)</td>
<td>1.67 (.98)</td>
<td>2.17 (.39)</td>
</tr>
<tr>
<td>Beginning</td>
<td>1.92 (.67)</td>
<td>1.92 (.67)</td>
<td>2.08 (.51)</td>
<td>1.92 (.67)</td>
</tr>
<tr>
<td>Ending</td>
<td>1.25 (.87)</td>
<td>1.58 (.9)</td>
<td>1.58 (.79)</td>
<td>1.42 (.67)</td>
</tr>
<tr>
<td>Holistic Impression</td>
<td>1.42 (.67)</td>
<td>1.67 (.89)</td>
<td>1.67 (.65)</td>
<td>2.08 (.29)</td>
</tr>
<tr>
<td>Overall Writing Score</td>
<td>9.83 (4.24)</td>
<td>11.42 (5.02)</td>
<td>11.33 (3.98)</td>
<td>13.00 (1.21)</td>
</tr>
</tbody>
</table>

*Note.* Struggling Readers, \( n = 12 \).
Table 21

Differences between Time Points for the Struggling Readers on Measures of Writing Achievement

<table>
<thead>
<tr>
<th>Measure</th>
<th>Wilks’s Lambda $\Lambda$</th>
<th>df</th>
<th>$F$ score (Multivariate $\eta^2$)</th>
<th>$X^2$ score (Kendall’s $W$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>WRAT-3 Spelling Raw Score</td>
<td>.253</td>
<td>(3,9)</td>
<td>9.82** (.75)</td>
<td></td>
</tr>
<tr>
<td>WRAT-3 Spelling Standard Score</td>
<td>.285</td>
<td>(3,9)</td>
<td>8.36** (.72)</td>
<td></td>
</tr>
<tr>
<td>WJ III ACH Fluency Raw Score</td>
<td>.56</td>
<td>(3,9)</td>
<td>2.66 (.44)</td>
<td></td>
</tr>
<tr>
<td>WJ III ACH Fluency Standard Score</td>
<td>.535</td>
<td>(3,9)</td>
<td>2.9 (.47)</td>
<td></td>
</tr>
<tr>
<td>CBM - Writing Total Words Written</td>
<td></td>
<td>3</td>
<td>13.35** (.37)</td>
<td></td>
</tr>
<tr>
<td>CBM - Writing % Words Spelled Correctly</td>
<td></td>
<td>3</td>
<td>5.07 (.14)</td>
<td></td>
</tr>
<tr>
<td>CBM - Writing Total Possible Sequences</td>
<td></td>
<td>3</td>
<td>11.30** (.31)</td>
<td></td>
</tr>
<tr>
<td>CBM - Writing % Correct Word Sequences</td>
<td></td>
<td>3</td>
<td>5.00 (.14)</td>
<td></td>
</tr>
<tr>
<td>CBM - Writing Correct Minus Incorrect</td>
<td>.198</td>
<td>(3,9)</td>
<td>12.15** (.80)</td>
<td></td>
</tr>
<tr>
<td>CBM - Writing Total 7 Letter Words</td>
<td>.351</td>
<td>(3,9)</td>
<td>5.55* (.65)</td>
<td></td>
</tr>
<tr>
<td>Writing Rubric Message</td>
<td>.717</td>
<td>(3,9)</td>
<td>1.19 (.28)</td>
<td></td>
</tr>
<tr>
<td>Writing Rubric Details</td>
<td></td>
<td>3</td>
<td>9.39* (.26)</td>
<td></td>
</tr>
<tr>
<td>Writing Rubric Sequencing</td>
<td></td>
<td>3</td>
<td>6.22 (.17)</td>
<td></td>
</tr>
<tr>
<td>Writing Rubric Beginning</td>
<td></td>
<td>3</td>
<td>.36 (.01)</td>
<td></td>
</tr>
<tr>
<td>Writing Rubric Ending</td>
<td></td>
<td>3</td>
<td>3.23 (.09)</td>
<td></td>
</tr>
<tr>
<td>Writing Rubric Holistic Impression</td>
<td></td>
<td>3</td>
<td>7.36 (.20)</td>
<td></td>
</tr>
<tr>
<td>Writing Rubric Overall Writing Score</td>
<td></td>
<td>3</td>
<td>8.46* (.24)</td>
<td></td>
</tr>
</tbody>
</table>

Note. * Significant at the $p < .05$ level, $n = 12$. ** Significant at the $p < .01$ level, $n = 12$. 

Multiple one-way within-subjects ANOVAs and Friedman tests were conducted with the factors identified as test intervals and the dependent variables being spelling, writing fluency, curriculum based measurement indices and compositional categories. The results of these comparisons were promising, with many findings indicative of significant time effects.
on scores between at least two testing points. In all other cases, positive growth trends between pre-test and post-test were evident, even if small and non-significant.

Evaluations of writing fluency factors, for example, did not reflect significant mean score differences across testing times; however, post-intervention scores highlighted moderate growth from the initial testing point, suggesting that remediation efforts are moving in the right direction (see Figure 22).

![Figure 22. Differences in Writing Fluency Mean Scaled Scores](image)

**Figure 22.** Differences in Writing Fluency Mean Scaled Scores

Struggling Readers, $n = 12$.

Comparisons of spelling mean raw and standard scores produced statistically significant differences in skill ratings across testing intervals. Paired samples $t$ tests were conducted to determine at which testing stage the differences occurred. Effect sizes for these analyses are reported as Cohen’s $d$ values.

Spelling data was first investigated for similarities between baseline and pre-test scores based on the hypothesis that spelling skills should not significantly change during the
“control” or “waiting” period. Results for the Struggling Readers supported initial theories, showing little variation in spelling standard scores between the two time points (pre-test $M = 68.31$, $SD = 8.18$; post-test $M = 71.85$, $SD = 12.44$), suggesting that spelling skill remained relatively unchanged, $t = -1.54$, $p = .15$, $d = -0.43$.

It was anticipated, however, that significant gains in the Struggling Readers’ spelling scores would be evident at post-test given their participation in the intensive literacy intervention. During the summer program, the Struggling Readers were exposed to targeted and explicit instruction necessary for building strong compositional skills, including good spelling practices. Findings are summarized below in Table 22, Figure 23. Results indicated clinically and statistically significant growth in the Struggling Readers’ spelling skills between the start and end of the program. Raw scores additionally reflected strong personal gains, though these results were not statistically significant.

Table 22

Comparison between Pre-Test & Post-Test Scores on Measures of Spelling

<table>
<thead>
<tr>
<th>Measure</th>
<th>$t$ score</th>
<th>$df$</th>
<th>Significance ($p$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>WRAT 3 - Spelling</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw Score</td>
<td>-1.76 (-.49)</td>
<td>11</td>
<td>.104</td>
</tr>
<tr>
<td>Standard Score</td>
<td>-3.02** (-.84)</td>
<td>11</td>
<td>.011</td>
</tr>
</tbody>
</table>

Note. Struggling Readers ($n = 12$). **Significant at the $p < .01$. 

**Figure 23. Differences in Spelling Pre-Post Mean Scaled Scores.**

**Significant at $p < .01$ Struggling Readers ($n = 12$).

Within-subject testing of curriculum based measurements for writing also indicated significant mean score differences across testing times for many of the CBM indices. Particularly, significant differences across testing intervals were identified for production-dependent (fluency) ratings reflecting total words written, total possible correct word sequences, and advanced vocabulary usage. Accuracy-production indices which account for the amount written and the technical components of written expression, such as correct sequences minus incorrect sequences, also reflected significant differences in scores across writing samples.

In contrast, comparisons of production-independent (accuracy) indices, such as the proportion of words spelled correctly and the proportion of correct words sequences, did not produce significant mean score differences across samples/time ($\chi^2 (3, N = 12) = 5.07, p = .17$, Kendall’s $W = .14; \chi^2 (3, N = 12) = 5, p = .17$, Kendall’s $W = -.14$, respectively). Though not significant, post-intervention scores for these latter ratings highlighted small growth from the
first two testing points. Please refer to Figures 24 and 25 for a graphical summary of these latter results.

![Figure 24. Differences across Writing Samples in Mean Proportions of Words Spelled Correctly.]

Struggling Readers, $n = 12$. 
Figure 25. Differences across Writing Samples in Mean Proportions of Correct Word Sequences.

Struggling Readers, $n = 12$.

On the CBM indices that yielded significant results, follow-up pairwise comparisons (paired samples $t$ tests or Wilcoxon tests) were conducted to determine at which testing stage differences in mean scores occurred. Data was first reviewed for patterns of significant growth in skills between writing sample 1 (pre-test – describe your ideal job) and writing sample 2 (three weeks into intervention – describe your ideal meal). These results did not reflect statistically significant changes in skill development during this initial remediation period (see Table 23).
Table 23

*Comparison between Writing Sample 1 & Writing Sample 2 on CBM*

<table>
<thead>
<tr>
<th>Measure</th>
<th>t score</th>
<th>z score</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(Effect Size d)</td>
<td>(Effect Size r)</td>
<td>(p)</td>
</tr>
<tr>
<td>CBM - Writing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Words Written</td>
<td>-1.73 (.5)</td>
<td>.084</td>
<td></td>
</tr>
<tr>
<td>Total Possible Sequences</td>
<td>-0.73 (.21)</td>
<td>.084</td>
<td></td>
</tr>
<tr>
<td>Correct Minus Incorrect</td>
<td>-1.57 (.45)</td>
<td>.117</td>
<td></td>
</tr>
<tr>
<td>Total 7 Letter Words</td>
<td>1.42 (.41)</td>
<td>.185</td>
<td></td>
</tr>
</tbody>
</table>

*Note.* Struggling Readers (n = 12), df = 11. *Significant at the p < .05.*

It was hypothesized, however, that significant changes would be reported on the identified CBM measures from the pre-test (writing sample 1 – describe your ideal job) to the post-test (writing sample 3 – describe your ideal vacation), as a result of 35 cumulative hours of intensive intervention in writing. Findings for the production-dependent measures are summarized below in Table 24 and presented graphically in Figures 26 through 28. Personal gains were made across all scores between sample 1 and sample 3, although growth remained non-significant on all but one of these indices (accuracy-production measure of correct minus incorrect word sequences).
Table 24

Comparison between Writing Sample 1 & Writing Sample 3 on CBM

<table>
<thead>
<tr>
<th>Measure</th>
<th>t score</th>
<th>z score</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(Effect Size d)</td>
<td>(Effect Size r)</td>
<td>(p)</td>
</tr>
<tr>
<td>CBM – Writing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Words Written</td>
<td>-1.78 (-.51)</td>
<td>.075</td>
<td></td>
</tr>
<tr>
<td>Total Possible Sequences</td>
<td>-1.8 (-.52)</td>
<td>.071</td>
<td></td>
</tr>
<tr>
<td>Correct Minus Incorrect</td>
<td>-2.43** (-.1)</td>
<td>.003</td>
<td></td>
</tr>
<tr>
<td>Total 7 Letter Words</td>
<td>-2.05 (-.59)</td>
<td>.065</td>
<td></td>
</tr>
</tbody>
</table>

Note. Struggling Readers (n = 12), df = 11. **Significant at p < .01.

Figure 26. Differences in Total Words Written Mean Scores.

Struggling Readers, n = 12. (Note: **Significant difference between sample 2 and 3, p < .01)
Figure 27. Differences in Correct Word Sequences Mean Scores.

Struggling Readers, $n = 12$. *(Note: **Significant difference between sample 2 and 3, $p < .01$)*

Figure 28. Differences in 7-Letter Words Mean Scores.

Struggling Readers, $n = 12$. *(Note: **Significant difference between sample 2 and 3, $p < .01$)*
Significant differences in mean scores for these indices actually occurred between the writing sample collected half-way through the intervention (sample 2) and the post-intervention sample (sample 3) – see Table 25.

Table 25

Comparison between Writing Sample 2 & Writing Sample 3 on CBM

<table>
<thead>
<tr>
<th>Measure</th>
<th>$t$ score</th>
<th>$z$ score</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(Effect Size $d$)</td>
<td>(Effect Size $r$)</td>
<td>($p$)</td>
</tr>
<tr>
<td>CBM - Writing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Words Written</td>
<td>-2.81**(-.81)</td>
<td></td>
<td>.005</td>
</tr>
<tr>
<td>Total Possible Sequences</td>
<td>-2.67**(-.77)</td>
<td></td>
<td>.008</td>
</tr>
<tr>
<td>Correct Minus Incorrect</td>
<td>-2.94**(-.85)</td>
<td></td>
<td>.003</td>
</tr>
<tr>
<td>Total 7 Letter Words</td>
<td>-2.63 (-.79)</td>
<td></td>
<td>.005</td>
</tr>
</tbody>
</table>

*Note.* Struggling Readers ($n = 12$), $df = 10$. **Significant at the $p < .01$.**

Evaluations of writing sample 2 revealed a blip in the Struggling Readers’ performance, with CBM measures indicating a decline in scores compared to both pre and post samples. It is possible that the story prompt for this sample (describe your ideal meal) yielded less interest than the other prompts, resulting in fewer words written, fewer subsequent number of sequences produced and fewer number of 7-letter words used. It is also plausible that the Struggling Readers paid less attention to the composition itself during this assessment period, as the in-class focus of the writing intervention at this time was placed heavily on the writing process itself (i.e., brainstorming, planning and organizing compositional pieces) at the expense of the product. This emphasis could have also impacted the amount of writing produced and subsequent fluency scores. Overall, however, the analysis conveys promising trends and suggests the beginning of growth and development of written expression skills, following explicit strategy driven instruction in writing.
Of particular interest and excitement is the significant finding of growth on the accuracy-production measure of correct word sequences minus the number of incorrect word sequences (CMIC), between the pre-test (writing sample 1 – describe your ideal job) and the post-test period (writing sample 3 – describe your ideal vacation). The CMIC index taps aspects of both writing fluency and accuracy and has been touted in literature as an effective measure for monitoring student progress and response to instruction, especially among older populations (Amato & Watkins, 2011; Jewel & Malecki, 2005; McMaster & Campbell, 2008; McMaster & Espin, 2007). CMIC has been found to be a relatively unbiased measure that is sensitive to change over time, which makes it ideal for capturing developmental progression and for differentiating between groups. Growth in CMIC scores across samples is summarized above in Table 25 and presented graphically below in Figure 29.

![Figure 29: Differences in Correct Minus Incorrect Word Sequences Mean Scores.](image)

**Significant difference between sample 1 and 3, p < .01, Struggling Readers, n = 12. (Note: **Additional significant difference between sample 2 and 3, p < .01)**
Results of within-subject testing for an additional criterion measure of text composition and construction skills (writing rubric) compliment the above findings for writing achievement and curriculum based measures, highlighting trends for growth and development over time. Significant mean score differences across samples were identified for ratings reflecting the detail used in the Struggling Readers’ compositions and for resulting overall total writing scores. (Please refer back to Table 21 for a summary of these results.) Follow-up pairwise comparisons (Wilcoxon tests, effect size = $r$ values) were conducted to determine which samples differed from each other on measures of detail and overall composition.

On these measures, data was first investigated for similarities in scores reflecting compositional detail and overall writing between writing sample 1 (pre-test) and writing sample 2 (during intervention). It was hypothesized that these ratings would reflect growth, though likely not yet significant, during this initial instructional period. Results supported initial theories, demonstrating personal growth in the Struggling Readers abilities to elaborate ideas in their writing with relevant details and in their overall written compositions between the two time points, though not yet statistically significant (see Table 26).
Table 26

*Comparison between Writing Sample 1 & Writing Sample 2 on Measures of Compositional Detail and Overall Writing*

<table>
<thead>
<tr>
<th>Measure</th>
<th>z score</th>
<th>Significance (p)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(Effect Size r)</td>
<td></td>
</tr>
<tr>
<td>Writing Rubric</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Details</td>
<td>-0.828 (-.24)</td>
<td>.408</td>
</tr>
<tr>
<td>Overall Writing Score</td>
<td>-1.53 (-.44)</td>
<td>.125</td>
</tr>
</tbody>
</table>

*Note.* Struggling Readers (*n* = 12), *df* = 11.

It was hypothesized, however, that significant development of writing details and overall writing scores would occur from the pre-test (writing sample 1 – describe your ideal job) to the post-test period (writing sample 3 – describe your ideal vacation) as a result of intensive instruction in self-regulated strategy development. Findings are summarized below in Table 27 and presented graphically in Figures 30 and 31. Again, personal gains were seen between these testing periods, though growth remained non-significant.

Table 27

*Comparison between Writing Sample 1 & Writing Sample 3 on Measures of Compositional Detail and Overall Writing*

<table>
<thead>
<tr>
<th>Measure</th>
<th>z score</th>
<th>Significance (p)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(Effect Size r)</td>
<td></td>
</tr>
<tr>
<td>Writing Rubric</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Details</td>
<td>-.087 (-.03)</td>
<td>.931</td>
</tr>
<tr>
<td>Overall Writing Score</td>
<td>-1.3 (-.06)</td>
<td>.193</td>
</tr>
</tbody>
</table>

*Note.* Struggling Readers (*n* = 12), *df* = 11.
Figure 30. Differences in Details Mean Scores.

Struggling Readers, $n = 12$. Detail Score totals out of possible 3.

Figure 31. Differences in Overall Writing Mean Scores.

Struggling Readers, $n = 12$. Overall Writing Score totals out of possible 18.
Pairwise comparisons of writing details and overall writing scores across samples revealed that significant differences in these indices occurred between pre-intervention and at 3 month follow-up (See Question 8 for the particulars of these results).

All other comparisons (message, sequencing, beginning, ending and holistic impression) did not show significant mean score differences across writing samples, although, post-intervention scores demonstrated positive growth trends. Please refer to Figures 32 through 34 for graphical summaries of these results.

**Figure 32.** Differences in Message and Sequencing Mean Scores.

Struggling Readers, $n = 12$

Figure 33. Differences in Beginning and Ending Mean Scores.

Struggling Readers, \( n = 12 \). Beginning: \( \chi^2(3, \, N=12) = .36, \, p = .95 \), \( Kendall’s \, W = .01 \). Ending: \( \chi^2(3, \, N=12) = 3.23, \, p = .36 \), \( Kendall’s \, W = .09 \).

Figure 34. Differences in Holistic Impression Mean Scores.

Struggling Readers, \( n = 12 \). Holistic Impression: \( \chi^2(3, \, N=12) = 7.36, \, p = .06 \), \( Kendall’s \, W = .2 \).
Discussion of Question 5a Findings:

Gains in Writing Achievement Immediately Following Intervention. The findings from the repeated measures tests and follow up pairwise comparisons on multiple measures of writing achievement are promising. Results indicated that after participation in the summer literacy program, the maltreated youth-in-care with reading difficulties made significant personal improvements in their ability to express themselves through written composition (i.e., spelling, grammar, punctuation, production). As was the case with gains made in reading, these findings have implications at the personal, programmatic, and systemic levels.

Given that this was the first known attempt of group remediation for older youth-in-care on significant writing deficits, the very notion that the Struggling Readers began to make personal gains in their writing skills warrants celebration and is indicative of real and meaningful life change. Particularly noteworthy was the significant development of the Struggling Readers’ spelling skills, demonstrating gains of 6 standard score points at post-intervention, bringing them closer to demonstrating skills classified in the low average range (based on Wechsler’s normed interpretation of standard scores). Likewise, positive growth was noted on a standardized measure of writing fluency, though these gains were small. The Struggling Readers further demonstrated developmental progression in all curriculum-based measures of writing, and particularly, significant growth in a cumulative measure of writing accuracy and production. This finding is especially exciting as it directly measures student progress in response to instruction. However, given that poor performance on the time 2 (meal) samples was noted, differences between time 2 and 3 (vacation) samples should be interpreted cautiously. Measures of text composition and construction also highlighted growth in skills, though more work in this area remains to be done. What’s promising is that
in just a short period of time, the youth collectively displayed growth, even if small, in observed writing areas. Ultimately, it is hoped that by actively combatting illiteracy, potential negative trajectories can be altered (Gilligan, 2000; Simos, Fletcher, Sarkari, Billingsley & Denton, 2007; Yates & Wekerle, 2009).

Poor writing is becoming increasingly recognized for its persistence and devastating effects among youth. The general findings of skill growth in this study suggest that despite advanced age, severe reading deficits, writing deficits, and countless other life obstacles, the Struggling Readers responded well to the same kinds of writing interventions that research has shown to be effective with children and adolescent struggling writers from the non-maltreated population (Berninger, et. al, 2008; Berninger, 2009; Graham & Harris, 2006; Graham & Perrin, 2007; Mason & Graham, 2008). These findings are promising and support the use of self-regulated strategy development, including explicit teaching of planning, revising and editing skills, with an extremely vulnerable group of youth (Vacca, 2008). In addition, it is plausible that the combination of SRSD plus phonologically-focused training in the reading program (e.g., rhyming, peeling off, vowel alert) contributed to good writing practices, and vice versa (Graham & Herbert, 2008). Future research should consider further adaptations to the writing program to include a stronger emphasis on fluency tasks. Although fluency activities, such as sentence combining, were built into the curricula, they were not a primary focus. While the structure of the program (e.g., small group, number of hours) appeared to work well, though future research may want to consider investigating various instructional designs.

Systemically, the implications of the writing component of the literacy program are much the same as those derived from the reading component. Namely, the combined personal and programmatic results suggest that for relatively little cost (financial, resources,
and time), older youth-in-care can and do benefit from educational programming such as the one used in this study. Child welfare systems should consider making ‘skill-building’ programs a critical component of one’s care plan regardless of age, as meaningful skill changes can be realized. Screening of educational needs should begin from a child’s entry point into the welfare system and continued throughout their time in care to ensure ample opportunity for action. Bringing awareness of these issues to foster families, group homes, and the government, is also important so that proper support systems can be identified and accessed. Further, creating a more literate society will lessen the burden placed on our health-care, correctional, and governmental systems, and subsequently create communities that are safer, healthier and more productive. Ultimately, helping these youth means helping ourselves – cultivating meaningful change for all.

The next step of this study was to examine whether or not participation in the program would also lead to essential psychosocial changes. Of particular interest was investigating if the maltreated youth with reading difficulties would improve their writing-related self-evaluations following writing remediation.

b. Further upon completion of an intensive literacy intervention program, will the Struggling Readers show positive alterations in their perceptions of writing difficulty, competency and attitude, and display cumulative gains in their writing self-perceptions overall?

Based on the data collected on the Struggling Readers from the 2009 writing cohort ($n = 12$), paired sample $t$ tests were conducted to evaluate the hypothesis that the mean scores of the writing self-perception ratings (Writing Difficulty, Writing Competency, Writing
Attitude, and Writing Perception Total) would significantly improve following intervention. For these measures, participants were evaluated at 2 time points, pre-intervention and post-intervention. Findings are summarized below in Table 28 and Figure 35. The results of all but one comparison indicated significant time effects, suggesting that mean scores of almost all self-perception constructs differed significantly between pre and post assessment.

Table 28

Pre & Post Test Mean Scores & Standard Deviations for the Struggling Readers on Measures of Writing Self-Perceptions

<table>
<thead>
<tr>
<th>Measure</th>
<th>M (SD) Pre-Test Data</th>
<th>M (SD) Post-Test Data</th>
<th>t score (Effect Size d)</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Writing Difficulty</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean Score</td>
<td>2.30 (.65)</td>
<td>2.49 (.39)</td>
<td>-1.23 (-.34)</td>
<td>.24</td>
</tr>
<tr>
<td>Writing Competence</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean Score</td>
<td>2.46 (.63)</td>
<td>3.06 (.74)</td>
<td>-2.36* (-.66)</td>
<td>.036</td>
</tr>
<tr>
<td>Writing Attitude</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean Score</td>
<td>2.53 (.64)</td>
<td>2.96 (.71)</td>
<td>-2.62* (-.73)</td>
<td>.022</td>
</tr>
<tr>
<td>Writing Perception Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean Score</td>
<td>2.43 (.46)</td>
<td>2.84 (.43)</td>
<td>-3.63** (-1.01)</td>
<td>.003</td>
</tr>
</tbody>
</table>

Note. Struggling Readers, n = 12, df = 11. *Significant at p < .05. Struggling Readers, n = 12, df = 11. **Significant at p < .01.
It was hypothesized that measured growth of writing self-perception, as a result of intensive literacy instruction, would be significant from pre-test to post-test. Results indicated that the Struggling Readers made clinically significant improvements on almost all writing self-perception constructs following the 7 week program. Moderate to substantial effect sizes in favour of the remediation were present for all significant pairwise comparisons.

It was only the comparison of how difficult the Struggling Readers perceived writing to be that did not produce statistically significant results, \( t(12) = -1.23, p = .24, d = -0.34 \); however, results highlight a general trend towards feelings of greater comfort with writing over time. Specifically, the mean score for the pre-measure of Perception of Writing Difficulty (\( M = 2.3, SD = .65 \)) was lower than the mean score for this construct at post assessment (\( M = 2.49, SD = .39 \)). These results suggest that after having received intensive
instruction in writing, the maltreated youth-in-care with reading difficulties made positive alterations in their self-perceptions of how difficult or problematic they perceived writing to be for themselves.

Similar outcomes were noted on a measure of Perception of Writing Competency. Here, the mean score at post-assessment reflected clinically and statistically significant positive increases from the mean score at pre-assessment. These results suggest that following instruction, the Struggling Readers made substantial improvements in their views of how competent they perceived themselves to be at writing.

Comparison of the youths’ attitudes toward writing over time also highlighted significant positive changes, suggesting that the Struggling Readers developed more of an appreciation and enjoyment for writing following the writing intervention.

On a measure of overall writing self-perception, the Struggling Readers made significant clinical gains from the pre-assessment to the post-assessment. These findings suggest that despite a myriad of severe disadvantages facing these adolescents and young adults from the child welfare system, their writing self-perceptions benefited from their participation in a self-regulated strategy development writing program.

**Discussion of Question 5b Findings:**

*Gains in Writing Self-Perception Ratings Immediately Following Intervention.* The results from the paired-samples t tests supported the initial hypothesis that the Struggling Readers would make meaningful gains in their writing-related self-perceptions following intensive instruction in writing. These findings are in keeping with studies that suggest that skill development should have profound effects on related self-concepts (Barnett et al., 1996;
Particularly interesting are the findings that the Struggling Readers became more confident in their abilities, viewing themselves to be more competent writers, but still perceiving writing to be difficult. Literature on the self-systems of adolescents and young adults suggests that following skill development, some youth actually become more perceptive of and attuned to their abilities and situations and adjust their self-perceptions accordingly. It is probable that real achievement gains that the Struggling Readers experienced may have contributed to their feelings of improved competency and realistic views of the complexity of the writing process. (Discussion of the relationship between literacy skill and related self-perceptions is found below in response to Question 7 and explored throughout the Qualitative findings).

Further, positive gains in perceptions of reading competency may be linked to the nature of instruction provided. Over the course of the intervention, the Struggling Readers were exposed to a strategy driven curriculum that required them to consistently take stock of their writing processes and progression. It also provided explicit teaching in technical (e.g., spelling) and process related skills (e.g., POWER writing). It is plausible that providing the Struggling Readers with tangible techniques for approaching writing enhanced their confidence in their skills, while keeping a realistic perception of the challenges associated with writing. As well, working through and completing several motivating writing activities on a daily basis may have helped the Struggling Readers to feel a sense of accomplishment and progression, which may have also contributed to positive increases in their self-perceptions (Jinks & Lorsbach, 2003).
Significant increases in scores related to the Struggling Readers’ attitudes toward writing were also observed. This finding is extremely positive given the fact that the Struggling Readers still find writing to be difficult and, realistically, are performing at levels below those of their peers who do not struggle with reading. It is possible that the types of writing activities performed throughout the intervention contributed to their engagement and enjoyment in the process. These traits appear to surface from writing about topics of personal interest and in forms most relevant to the youths’ daily lives (see Discussion of Category 1 Qualitative Results). For example, a significant portion of the writing program involved writing with the aid of technology and for the purposes of social communication. On occasion, youth were provided with phones to carry out texting activities and wrote editorial pieces about their own personal literacy needs. They also wrote contributions towards a ‘year-book’, personal daily nutrition logs, emails, stories and compositions of their choice. Further research is needed to truly understand which components of the program contributed to the development of more positive attitudes towards writing. In the meantime, it appears that the content and make-up of this program were pointed in the right direction.

As is the case with gains made in writing achievement skills, the positive increases in self-evaluation (writing difficulty, competency and attitude) are in and of itself a real and meaningful change for these youth that will hopefully help steer their trajectories forward.

Writing Profiles Post-Intervention.

6. Further, given an initial difference in writing skill and writing-related perception profiles, will the struggling maltreated readers hold more similar ratings to that of the maltreated youth without reading difficulties following intervention?
Based on the data collected for the youth participants from the 2009 cohort, independent-samples $t$ tests or Mann-Whitney $U$ tests were conducted to compare ratings on writing measures for the two groups of maltreated youth following remediation. Given initial differences between groups on almost all measures of writing prior to intervention, it was hoped that the writing profiles of the Struggling Readers would more closely resemble those of their Good Reader counterparts following participation in the intensive summer literacy program. Findings are summarized in Table 29 and presented graphically in Figure 36.

Despite personal growth in writing achievement as discussed above, results of these comparisons continued to show significant differences between the Struggling Readers ($n = 11$) and the Good Readers ($n = 12$) on measures of spelling and writing fluency.

Table 29

*Comparison between Youth-In-Care Struggling & Good Readers on Measures of Writing Achievement Following Writing Intervention*

<table>
<thead>
<tr>
<th>Measure</th>
<th>$M (SD)$ Struggling Readers ($n = 12$)</th>
<th>$M (SD)$ Good Readers ($n = 11$)</th>
<th>$t$ score (Effect Size $d$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>WRAT-3 Spelling</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw Score</td>
<td>30.15 (6.3)</td>
<td>43 (2.65)</td>
<td>6.69*** (2.79)</td>
</tr>
<tr>
<td>Standard Score</td>
<td>77.85 (13.43)</td>
<td>104 (6.02)</td>
<td>6.31*** (2.63)</td>
</tr>
<tr>
<td>WJ III ACH Fluency</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw Score</td>
<td>18.00 (5.64)</td>
<td>24.36 (7.45)</td>
<td>2.38* (.99)</td>
</tr>
<tr>
<td>Standard Score</td>
<td>82.69 (12)</td>
<td>93.18 (11.25)</td>
<td>2.2* (.92)</td>
</tr>
</tbody>
</table>

*Note.* *Significant at $p < .05$, $df = 21$. ***Significant at $p < .001$, $df = 17$.}
Figure 36. Differences in Writing Achievement Mean Standard Scores between Struggling & Good Readers Following Writing Intervention.

Struggling Readers, n = 12; Good Readers, n = 11. *Significant at $p < .05$. **Significance at $p < .001$.

As well, of interest was whether or not Struggling and Good Readers would continue to differ on written expression skills, evaluated through curriculum based measurement (CBM) techniques and the application of a developed rubric on timed writing samples. Based on the data collected for the 2009 cohort youth participants, additional comparisons were conducted to determine if intervention may have helped narrow the writing gap between poor and good reader profiles. Score differences between the two groups on CBM and Rubric ratings are summarized below in Table 30 and presented graphically in Figures 37 and 38.

On the CBM tasks, though the Struggling Readers’ performances at post-intervention reflected positive skill growth, clinically significant differences remained between the Struggling and Good Readers on advanced writing measures, including the proportion of
correct word sequences produced (CWS), and on a measure of vocabulary as assessed by the number of 7-letter words used in the sample (VOC). Furthermore, differences in mean scores on more rudimentary measures of writing also continued to favour the Good Readers, including the total number of words written (TWW), the proportion of words spelled correctly in the sample (WSC), and the total possible number of correct word sequences (TPCWS) produced, although these results did not vary significantly between groups. Most interestingly and promising, however, was the Struggling Readers’ growth on a measure of accuracy and production (CMIC) which, by post-intervention, no longer remained statistically less favourable than that of the Good Readers. These results suggest that the participants’ overall written expression skills at post-assessment were no longer significantly different from those of the Good Readers, hence, reflective of more advanced skill.

Holistic ratings also indicated consistent differences between the two groups in key components of text composition and construction. Here, the Good Readers continued to demonstrate superior skills on all but one writing construct. Though progress was made over time, the Good Readers continued to demonstrate more sophisticated applications of writing components (i.e., Details, Sequencing, Beginning, Endings, Holistic Impression) in their compositions, contributing to generally more well-crafted pieces of writing. Both groups continued to develop main ideas with similar success.
Table 30

Comparisons between Youth-In-Care Struggling & Good Readers on Measures of Written Expression Following Writing Intervention

<table>
<thead>
<tr>
<th>Measure</th>
<th>Struggling Readers</th>
<th>Good Readers</th>
<th>t score</th>
<th>z score</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Writing Sample 1- CBM</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Words Written</td>
<td>102.08 (23.64)</td>
<td>107.91 (42.97)</td>
<td>0.4 (.17)</td>
<td></td>
</tr>
<tr>
<td>% Words Spelled Correctly</td>
<td>91.28% (4.13)</td>
<td>97.11% (2.36)</td>
<td>-2.09 (-.44)</td>
<td>-2.09 (-.44)</td>
</tr>
<tr>
<td>Total Possible Sequences</td>
<td>109 (25.46)</td>
<td>114 (45.83)</td>
<td>0.32 (.13)</td>
<td></td>
</tr>
<tr>
<td>% Correct Word Sequences</td>
<td>73.58% (17.64)</td>
<td>87.54% (4.62)</td>
<td>-2.77** (-.58)</td>
<td></td>
</tr>
<tr>
<td>Correct Minus Incorrect</td>
<td>60.17 (20.40)</td>
<td>87.09 (40.18)</td>
<td>2 (.83)</td>
<td></td>
</tr>
<tr>
<td>Total 7-Letter Words</td>
<td>5.75 (3.39)</td>
<td>15.27 (7.34)</td>
<td>3.94** (1.64)</td>
<td></td>
</tr>
<tr>
<td><strong>Writing Sample 1 - Rubric</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Message</td>
<td>2.33 (.89)</td>
<td>2.55 (.93)</td>
<td>-1.35 (-.28)</td>
<td>-1.35 (-.28)</td>
</tr>
<tr>
<td>Details</td>
<td>2 (.85)</td>
<td>2.73 (.65)</td>
<td>-2.77** (-.58)</td>
<td>-2.77** (-.58)</td>
</tr>
<tr>
<td>Sequencing</td>
<td>1.67 (.98)</td>
<td>3 (.00)</td>
<td>4.93*** (2.06)</td>
<td>4.93*** (2.06)</td>
</tr>
<tr>
<td>Beginning</td>
<td>2.08 (.51)</td>
<td>2.64 (.67)</td>
<td>-2.65** (-.55)</td>
<td>-2.65** (-.55)</td>
</tr>
<tr>
<td>Ending</td>
<td>1.58 (.79)</td>
<td>2.36 (.67)</td>
<td>-2.39* (-.49)</td>
<td>-2.39* (-.49)</td>
</tr>
<tr>
<td>Holistic Impression</td>
<td>1.67 (.65)</td>
<td>2.55 (.69)</td>
<td>-2.96** (-.59)</td>
<td>-2.96** (-.59)</td>
</tr>
<tr>
<td>Overall Writing Score</td>
<td>11.33 (3.98)</td>
<td>15.73 (2.37)</td>
<td>-3.47*** (-.68)</td>
<td>-3.47*** (-.68)</td>
</tr>
</tbody>
</table>

Note. ** Significant at the p < .01 level, df = 21 respectively. *** Significant at the p < .001 level, df = 12, 11 respectively.
Figure 37. Differences in Curriculum Based Measurements Mean Scores between Struggling & Good Readers Prior to & Following Writing Intervention.

Struggling Readers, n = 12; Good Readers, n = 11. *Significance at p < .05. **Significance at p < .01.

***Significance at p < .001.
Similar tests were conducted to compare ratings on self-report measures related to writing for the two groups of maltreated youth following the Struggling Readers’ participation in the literacy intervention. It was hypothesized that following program involvement, the Struggling Readers \( n = 12 \) would present with writing self-perception ratings that more closely matched those of the Good Reader group \( n = 11 \). Findings are presented below (see Table 31, Figure 39). Positive trends toward improved self-perceptions for the Struggling Readers were revealed from the findings of pairwise comparisons described above. Even though positive advances were made, results between the two groups on all 4 measured self-perception constructs (Perception of Writing Difficulty, Perception of Writing Competency, Attitude Toward Writing, Total Writing Self-Perception) remained statistically different at post assessment.
Table 31

Comparison between Youth-In-Care Struggling & Good Readers on Measures of Writing Self-Concept

Prior to & Following Writing Intervention

<table>
<thead>
<tr>
<th>Measure</th>
<th>Struggling Readers (n = 12)</th>
<th>Good Readers (n = 11)</th>
<th>t score</th>
<th>(Effect Size d)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Writing Difficulty</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean Score</td>
<td>2.49 (.39)</td>
<td>3.03 (.59)</td>
<td>2.69*</td>
<td>(1.12)</td>
</tr>
<tr>
<td>Writing Competence</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean Score</td>
<td>3.06 (.74)</td>
<td>3.83 (.51)</td>
<td>2.9**</td>
<td>(1.21)</td>
</tr>
<tr>
<td>Writing Attitude</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean Score</td>
<td>2.96 (.71)</td>
<td>3.79 (.65)</td>
<td>2.94**</td>
<td>(1.23)</td>
</tr>
<tr>
<td>Writing Perception Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean Score</td>
<td>2.84 (.43)</td>
<td>3.55 (.51)</td>
<td>3.7***</td>
<td>(1.54)</td>
</tr>
</tbody>
</table>

Note. *** Significant at the $p < .001$ level; $df = 21$.

Figure 39. Differences in Writing Self-Perception Mean Scores between Struggling & Good Readers Prior to & Following Writing Intervention.

Struggling Readers, $n = 12$; Good Readers, $n = 11$. *Significance at $p < .05$. **Significance at $p < .01$.

***Significance at $p < .001$. 
Discussion of Question 6 Findings:

Differences in Youth-In-Care’s Writing Profiles Following Intervention.

Encouraging results from the independent-samples tests showed that, following their participation in the writing intervention program, the Struggling Readers were able to make gains in their writing skills and related perceptions to better reflect those of the Good Readers. Though statistically significant differences between the two groups still remained on most originally identified measures, the Struggling Readers’ response to treatment was positive and trending toward Good Reader profiles.

In fact, the Struggling Readers’ gains in an accuracy-production index of written expression were so great that these scores became statistically on par with those of the Good Readers, indicating no differences between the two groups following remediation. Results of these comparisons are particularly encouraging as they lend support to the effectiveness of an intervention program that focuses on the ‘drill, discuss, and practice’ of process and product-based writing skills for these youth in spite of older age, severe skill deficits, and numerous life hurdles.

It is plausible that the program’s highly concentrated focus on specific writing techniques contributed to the immense gains achieved by the Struggling Readers, bringing them closer and closer to the skills of youth who have less difficulty with literacy. These techniques include considering the ART of writing (Audience, Reason, and Topic when planning, consolidating ideas through graphic organizers), and editing work following strategies like COPS (capitalization, organization, punctuation and spelling). Given that a consistent pattern of improvement was observed in only 7 weeks for youth who had gone through their entire childhood and some or all of their adolescence with very poor writing
skills, it can be speculated that with further practice, application and extension of strategy work (e.g., specific fluency and construction techniques) these youth might further develop such skills. In the meantime, findings provide a solid springboard for clinical practice and can contribute to the growing body of literature on adult literacy remediation practices.

Similarly, although the Struggling Readers post self-evaluations did not reach the level of the Good Readers ratings, movement towards increased positive self-perceptions in these areas were present. These results additionally lend support to the suggestion that exposing maltreated youth Struggling Readers to a specialized writing program that attempts to demystify the process of writing through sound strategy instruction may increase the likelihood that these readers will alter negative cognitions and subsequent maladaptive thinking and behaviour.

**Literacy Trends.**

7. Additionally, what do the trends and patterns of pre-post intervention gain scores indicate about the relationships between reading achievement, writing achievement, and self-perceptions for the maltreated youth with reading difficulties?

The relationships between literacy achievement and self-perceptions gains were also investigated using data from both the 2005 and 2009 Struggling Reader cohorts where possible \((n = 24)\). Of particular interest was exploring the associations between reading achievement and writing achievement, as well as the association of these skills in relation to respective self-perceptions for the maltreated youth.

As highlighted above in Results and Discussion sections of Questions 2 and 5, post-hoc pairwise comparisons were conducted to evaluate the hypotheses that the Struggling
Readers achievement scores would significantly improve following intervention. Results indicated that the Struggling Readers made statistically significant improvements from pre-test to post test on measures of decoding, phonological processing, overall reading fluency, spelling, and written expression (CMIC). Additionally, gains in self-perceptions were made following intervention in both reading (perceptions of reading difficulty, reading competency, and overall reading self-concept) and writing (writing competency, attitudes towards writing, and overall writing self-concept) domains.

The trends and patterns of these relationships were explored primarily through Scatterplot graphing (See Appendix L) and are discussed below. Effect sizes (correlations) for these assessments are additionally reported. Pearson correlation coefficients ($r$ values) range from -1 to +1, indicating the degree in which low (or high) scores on one variable (predictor) typically align with low (or high) scores on another variable (criterion). If $r$ is positive, low scores on the predictor variable tend to be associated with low scores on the criterion variable. The same pattern is true of high scores. If $r$ is negative, low scores on the predictor variable tend to be associated with high scores on the criterion variable, and vice versa. If $r$ is zero, low scores (or high scores) on the predictor variable are usually equally associated with low and high scores on the criterion variable suggesting no relationship between variables. Regardless of sign, correlation coefficients of .10, .30, and .50 are interpreted as weak, moderate, and strong effect sizes respectively (Green & Salkind, 2005). Levels of significance were corrected in each grouping of correlations using the Bonferroni approach to control for Type 1 errors.

The trends and patterns of association between self-perceptions mean gain scores (reading self-perception total and writing self-perception total) and achievement raw gain scores (decoding, phonological processing, spelling, and CMIC) were first explored through
Scatterplot graphing (See Appendix L). Visually, overall patterns showed gains in achievement and perception moving in a forward direction, reflecting significant increases in both self-perceptions and literacy achievement following intervention. Results of correlational analyses, however, were not significant. These findings are listed below in Table 32. The lack of a clear relationship between these variables may be due to the differing nature of growth in skill and perception over time. It appeared that positive increases in achievement were not always linearly related to positive increases in self-perception. With the exception of a few outliers, where gains were made in both arenas it appeared that an increase in skill, no matter how large or small, could be associated with varying degrees of increase in self-perceptions. For some, those who made the smallest gains in achievement made the most gains in self-perceptions. Thus, the relationships between achievement and related self-views are not necessarily predictable, though nonetheless appear to be promising.
Table 32

*Correlations among Literacy Achievement Gain Scores & Related Self-Perception Gains*

<table>
<thead>
<tr>
<th>Measure</th>
<th>Total Reading Self-Perception</th>
<th>Total Writing Self-Perception</th>
<th>Significance p (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>WRMT-R Word Identification</td>
<td>-.35</td>
<td>.092</td>
<td></td>
</tr>
<tr>
<td>WRMT-R Word Attack</td>
<td>.15</td>
<td>.492</td>
<td></td>
</tr>
<tr>
<td>WRAT-3 Word Reading</td>
<td>-.30</td>
<td>.160</td>
<td></td>
</tr>
<tr>
<td>CTOPP Blending</td>
<td>-.48</td>
<td>.100</td>
<td></td>
</tr>
<tr>
<td>CTOPP Elision</td>
<td>.30</td>
<td>.327</td>
<td></td>
</tr>
<tr>
<td>CTOPP Segmentation</td>
<td>.04</td>
<td>.889</td>
<td></td>
</tr>
<tr>
<td>WRAT-3 Spelling</td>
<td></td>
<td>-.49</td>
<td>.087</td>
</tr>
<tr>
<td>Correct Minus Incorrect</td>
<td></td>
<td>.06</td>
<td>.861</td>
</tr>
</tbody>
</table>

*Note.* WRMT-R & WRAT-3 Reading, n = 24; CTOPP, n = 13; WRAT-3 Spelling & CMIC, n = 12.

Further visual exploration of achievement trends showed that decoding skills were generally associated with positive increases in spelling and written expression skills. As was the case between the trends and patterning of achievement and self-perception gains, trends for reading and writing gain scores were not always linearly related despite growth in both areas. Variable score growth may account for the non-significant correlation between growth in decoding (WRMT-R Word Identification) and accuracy-production measures of writing (CMIC), \( r(10) = .15, p = .62 \). Rather, the correlation between growth in word identification and spelling skills was statistically significant, \( r(10) = .67, p = .01 \), suggesting that skill growth in decoding is strongly related to growth in spelling.

With the exception of a few outliers, reading self-perceptions appeared to be linearly related to positive increases in writing self-perceptions, though results are not yet significant \( r(10) = .54, p = .058 \). A look at some of the outliers suggested that positive increases in
writing self-perceptions occurred where little or no change occurred in respect to reading self-perceptions.

Discussion of Question 7 Findings:

Relationships between Achievement and Self-Perceptions. It was expected that the patterns and trends of the plotted gain scores, along with correlational analyses, would reveal positive linear relationships between literacy achievement and related self-perceptions. Reading self-perception increases, however, were not linearly related to reading achievement. Instead, small change in reading achievement seems to have had as much potential as large gains on influencing the Struggling Readers’ self-perceptions. Similar patterns were noted between writing achievement and related self-perceptions. The implications here are that any amount of positive change in the areas of reading or writing may lead to increased feelings of betterment and worth.

Likewise, it was expected that the patterns of the plotted gain scores and correlations would reveal positive linear relationships between reading achievement and writing achievement. Investigation of these patterns suggested that increases in one domain were often coupled with increases in the other; however, the amount of increase produced in each area is likely more dependent upon alternate variables, such as instructional methods and components. Further research is needed to determine the amount of skill gain that can be accounted for by skill gain in a complimentary field. Ultimately, these trends are positive, showing that increases in reading were often paired with increases in writing. The same held true for patterns of self-perception gains. The implications here are that positive change in domain specific skills or self-evaluations may have mutually beneficial effects on related skills and perceptions (Marsh et al., 2005).
8. *Additionally, what do the Struggling Readers’ skills and self-perceptions look like 3 months following intervention? Will potential gains made remain?*

Of particular interest was investigating whether or not significant gains made by the Struggling Readers following their participation in the literacy program would be maintained 3 months post intervention. Based on the data collected from the 2009 cohort (reading intervention \( n = 13 \), writing intervention \( n = 12 \)), paired sample \( t \) tests were conducted to evaluate the hypothesis that the mean scores of the Struggling Readers’ achievement and self-perception ratings (measures demonstrating significant growth at post intervention from pre assessment) would remain consistent across time (no significant differences between post and follow-up evaluations). Findings are summarized below in Table 3 and presented graphically in Figures 40 through 44.

The results were generally favourable, showing that on many of the measures, the Struggling Readers maintained score gains 3 months following intervention (blending words, spelling, correct minus incorrect words sequences, perception of reading difficulty, reading competency and reading self-perception total, perception of writing attitude and writing self-perception total). However, although many of these scores did not differ significantly from post-assessment scores, the overall pattern of score differences suggests a general linear decline in gains overtime. Some score declines were indeed great enough to be considered significantly different from the scores achieved following intervention.
Table 3

Comparison between Post Test & Follow-Up Scores on Measures of Literacy Achievement & Self-Perceptions

<table>
<thead>
<tr>
<th>Measure</th>
<th>Post-Test Data</th>
<th>Follow-Up Data</th>
<th>t score (effect size d) or z score (r)</th>
<th>Significance (p)</th>
</tr>
</thead>
<tbody>
<tr>
<td>WRMT-R Word ID</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw Score</td>
<td>71.31 (12.28)</td>
<td>66.62 (14.33)</td>
<td>(z,r) -2.75** (.76)</td>
<td>.006</td>
</tr>
<tr>
<td>Standard Score</td>
<td>74.23 (15.62)</td>
<td>67.31 (19.00)</td>
<td>(z,r) -2.91** (.81)</td>
<td>.004</td>
</tr>
<tr>
<td>WRMT-R Word Attack</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw Score</td>
<td>28.00 (8.18)</td>
<td>23.85 (8.26)</td>
<td>2.16 (.60)</td>
<td>.052</td>
</tr>
<tr>
<td>Standard Score</td>
<td>85.23 (10.31)</td>
<td>79.77 (9.91)</td>
<td>2.26* (.63)</td>
<td>.043</td>
</tr>
<tr>
<td>WRAT-3 Reading</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw Score</td>
<td>37.39 (6.87)</td>
<td>34.23 (5.39)</td>
<td>2.71* (.75)</td>
<td>.02</td>
</tr>
<tr>
<td>Standard Score</td>
<td>82.92 (15.13)</td>
<td>74.85 (12.66)</td>
<td>3.17** (.88)</td>
<td>.008</td>
</tr>
<tr>
<td>CTOPP – Blending Words</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw Score</td>
<td>15.00 (3.61)</td>
<td>15.23 (3.77)</td>
<td>-2.6 (-.07)</td>
<td>.8</td>
</tr>
<tr>
<td>Standard Score</td>
<td>9.46 (2.85)</td>
<td>9.69 (3.12)</td>
<td>-4.2 (-.12)</td>
<td>.68</td>
</tr>
<tr>
<td>CTOPP – Elision</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw Score</td>
<td>15.15 (3.24)</td>
<td>11.08 (4.80)</td>
<td>3.24** (.9)</td>
<td>.007</td>
</tr>
<tr>
<td>Standard Score</td>
<td>7.85 (2.30)</td>
<td>5.54 (2.82)</td>
<td>3.03* (.84)</td>
<td>.011</td>
</tr>
<tr>
<td>CTOPP – Segmentation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw Score</td>
<td>12.31 (4.07)</td>
<td>10.15 (4.65)</td>
<td>2.13 (.59)</td>
<td>.055</td>
</tr>
<tr>
<td>Standard Score</td>
<td>9.69 (2.02)</td>
<td>7.92 (2.18)</td>
<td>3.4** (.94)</td>
<td>.005</td>
</tr>
<tr>
<td>WRAT-3 Spelling</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw Score</td>
<td>30.15 (6.3)</td>
<td>29.46 (4.61)</td>
<td>.65 (.18)</td>
<td>.53</td>
</tr>
<tr>
<td>Standard Score</td>
<td>77.85 (13.43)</td>
<td>73.39 (11.19)</td>
<td>1.87 (.52)</td>
<td>.086</td>
</tr>
<tr>
<td>CBM - Writing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Correct Minus Incorrect</td>
<td>60.17 (20.40)</td>
<td>47.33 (35.56)</td>
<td>1.42 (.41)</td>
<td>.183</td>
</tr>
<tr>
<td>Reading Difficulty Mean Score</td>
<td>2.71 (.43)</td>
<td>2.0 (.62)</td>
<td>-.29 (-.08)</td>
<td>.77</td>
</tr>
<tr>
<td>Reading Competency Mean Score</td>
<td>3.09 (.68)</td>
<td>3.05 (.63)</td>
<td>.00 (0)</td>
<td>1.00</td>
</tr>
<tr>
<td>Reading Perception Mean Score</td>
<td>2.96 (.56)</td>
<td>2.83 (.53)</td>
<td>1.2 (-.33)</td>
<td>.25</td>
</tr>
<tr>
<td>Writing Competency Mean Score</td>
<td>3.06 (.74)</td>
<td>2.56 (.56)</td>
<td>2.32* (.64)</td>
<td>.04</td>
</tr>
<tr>
<td>Writing Attitude Mean Score</td>
<td>2.96 (.71)</td>
<td>2.79 (.74)</td>
<td>.71 (.20)</td>
<td>.49</td>
</tr>
<tr>
<td>Writing Perception Mean Score</td>
<td>2.84 (.43)</td>
<td>2.59 (.48)</td>
<td>1.77 (.49)</td>
<td>.1</td>
</tr>
</tbody>
</table>

Note. Reading Measures - Struggling Readers, n = 13, df = 12. Writing Measures - Struggling Readers, n = 12, df = 11. *Significant at p < .05. **Significant at p < .01.
Figure 40. Differences in Decoding Post-Test & Follow-Up Mean Scores.

Struggling Readers, $n = 12$, $df = 11$. *Significant at $p < .05$. **Significant at $p < .01$.

Figure 41. Differences in Phonological Processing Post-Test & Follow-Up Mean Scores.

Struggling Readers, $n = 12$, $df = 11$. *Significant at $p < .05$. **Significant at $p < .01$. 
**Figure 42.** Differences in Writing Achievement Post-Test & Follow-Up Mean Scores.

Struggling Readers, \( n = 11 \), \( df = 10 \).

**Figure 43.** Differences in Reading Self-Perception Post-Test & Follow-Up Mean Scores.

Struggling Readers, \( n = 12 \), \( df = 11 \).
For the scores that reflected significant decline over the 3 month maintenance period (decoding measures, elision, segmentation, perception of writing competency), additional pairwise comparisons were made to see if the Struggling Readers regressed back towards their initial achievement and self-perception presentations at pre-test. It was hoped that despite decline, the Struggling Readers would still show significant growth compared to their original starting points. These findings are summarized below in Table 3 and Figures 45 through 47. Results were promising, showing that on all but two of these measures (elision and perception of writing competency), the Struggling Readers maintained score gains 3 months following intervention that reflected significant improvements from their skill and perceptions profiles prior to remediation. Particularly, the Struggling Readers’ decoding and segmentation skills were significantly better at follow-up than they were prior to intervention. Unfortunately, the Struggling Readers’ elision skills and perceptions of writing
competency did not appear to be as resilient, making the declines seen substantial enough to resemble scores first seen at pre-test.

Table 34

Comparison between Pre Test & Follow-Up Scores on Measures of Literacy Achievement & Self-Perceptions

<table>
<thead>
<tr>
<th>Measure</th>
<th>M (SD) Pre-Test Data</th>
<th>M (SD) Follow Up Data</th>
<th>t score (Effect Size d)</th>
<th>Significance (p)</th>
</tr>
</thead>
<tbody>
<tr>
<td>WRMT-R Word ID</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw Score</td>
<td>61.54 (12.28)</td>
<td>66.62 (14.33)</td>
<td>-2.97** (-.82)</td>
<td>.01</td>
</tr>
<tr>
<td>Standard Score</td>
<td>63.77 (15.10)</td>
<td>67.31 (19.00)</td>
<td>-1.92 (-.53)</td>
<td>.08</td>
</tr>
<tr>
<td>WRMT-R Word Attack</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw Score</td>
<td>18.84 (9.22)</td>
<td>23.85 (8.26)</td>
<td>-4.12*** (-1.14)</td>
<td>.001</td>
</tr>
<tr>
<td>Standard Score</td>
<td>74.23 (11.11)</td>
<td>79.77 (9.91)</td>
<td>-3.63** (-1.01)</td>
<td>.003</td>
</tr>
<tr>
<td>WRAT-3 Reading</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw Score</td>
<td>31.77 (4.60)</td>
<td>34.23 (5.39)</td>
<td>-2.96** (-.81)</td>
<td>.01</td>
</tr>
<tr>
<td>Standard Score</td>
<td>69.77 (10.71)</td>
<td>74.85 (12.66)</td>
<td>-2.45* (-.68)</td>
<td>.03</td>
</tr>
<tr>
<td>CTOPP – Elision</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw Score</td>
<td>10.54 (4.81)</td>
<td>11.08 (4.80)</td>
<td>-0.38 (-.11)</td>
<td>.71</td>
</tr>
<tr>
<td>Standard Score</td>
<td>5.31 (2.81)</td>
<td>5.54 (2.82)</td>
<td>-0.32 (-.09)</td>
<td>.75</td>
</tr>
<tr>
<td>CTOPP – Segmentation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw Score</td>
<td>7.39 (4.77)</td>
<td>10.15 (4.65)</td>
<td>-3.52** (-.98)</td>
<td>.004</td>
</tr>
<tr>
<td>Standard Score</td>
<td>6.69 (2.84)</td>
<td>7.92 (2.18)</td>
<td>-2.62* (-.73)</td>
<td>.02</td>
</tr>
</tbody>
</table>

Writing Competency Mean Score | 2.46 (.63) | 2.56 (.56) | -6.99 (-.19) | .5

Note. Reading Measures - Struggling Readers, n = 13, df = 12. Writing Measures - Struggling Readers, n = 12, df = 11.

*Significant at p < .05. **Significant at p < .01. ***Significant at p < .001.
Figure 45. Differences in Decoding Pre-Test & Follow-Up Mean Scores.

Struggling Readers, \( n = 12, \ df = 11 \).

Figure 46. Differences in Elision & Segmentation Pre-Test & Follow-Up Mean Scores.

Struggling Readers, \( n = 12, \ df = 11 \).
Discussion of Question 8 Findings:

Maintenance of Gains at 3 Month Follow-Up. The findings from the follow up pairwise comparisons on multiple achievement and perception measures are indeed promising. It was hoped that gains made in literacy achievement and related self-perceptions following intervention would maintain in the months to follow, having long-lasting effects for the Struggling Readers. Given that the main objective of this study was to help foster meaningful changes in the lives of these youth, it was of upmost importance (in the view of the author) that the gains made were not fleeting but long-lasting. The program was constructed to foster real learning and growth and to provide opportunities where perhaps none existed before.

On the positive, it appeared that on almost all accounts, the youth were farther ahead on measured constructs at follow-up than they were prior to the intervention. They maintained significant gains in spelling, written expression, sound manipulation (e.g., blending words), and in their beliefs about their own overall abilities in reading and writing.
They learned and continued to feel good about their progress and about themselves. In areas where the youth saw more significant declines with time, namely in their decoding skills and other key phonological processing abilities, they still performed significantly better 3 months following intervention than they originally did prior to participation in the remediation program. Results demonstrate that investing in these youth can foster real and important transformation in their lives. Yet, the follow-up findings highlight the critical need for ongoing support and guidance. The 7-week program alone is simply not enough. The fact remains that left without dedicated programming and commitment of time, these youth started to regress, losing some of the skills (e.g., elision) and confidence (e.g., perception of writing competency) that they worked so hard to achieve.

At the end of the 2009 summer program, many of the youth rallied together to convince the instructional staff that the program could and should not come to an end. They were extremely convincing in their arguments, suggesting that this was the first time that they had felt like they were learning and could do so in a safe place. They were proud of their efforts and not yet ready to give up on the education that they so craved. The research team decided that we would grant the youth their request and continue a drop-in program 1 night per week until the commencement of the follow-up assessments 3 months later. The youth were not provided with honorariums for this portion of the program, nor were they required to attend. Rather, we continued on as a ‘literacy support group’ with occasional ‘refresher exercises’ and an emphasis on applying skills learned though a book club and journal club. Each drop-in session often saw 4-8 youth (out of the original 13). A few participants became regular attendees whereas others would attend more sporadically. Youth who did not attend missed sessions due to work commitments and or travel difficulties at night.
Of course it is plausible that the collective gains maintained 3 months following the program may have been influenced by the continued participation of some of the youth in the drop in sessions. Nonetheless, the message from these findings remains the same. Youth-in-care need (and many want) continued support with their education to see lasting effects.

From Quantitative to Qualitative…

The general implications of the quantitative findings are such that participating in a remedial literacy intervention indeed had a positive impact on the achievement skills and related self-perceptions of maltreated youth with reading difficulties. Findings from the qualitative portion of the present study explore participants’ views about the project in a more personal way.
Qualitative Findings

The qualitative section was guided by the overarching question: \textit{In what ways has participation in the literacy program contributed to meaningful change in the lives of youth-in-care?} In order to answer this question, several sub-questions were also considered.

\begin{itemize}
\item[a.] \textit{How do struggling maltreated youth readers describe their self-perceptions?}
\item[b.] \textit{How has participating in a remedial literacy program changed these perceptions?}
\item[c.] \textit{How has participating in a remedial literacy program impacted their everyday lives?}
\end{itemize}

To address these inquiries, in-depth, semi-structured interviews were conducted to glean insights into the literacy experiences and perceptions of maltreated youth. Qualitative data was originally gathered to include responses from both Struggling and Good Reader participants ($n = 46$) over multiple time points. For the purpose of this study, however, comparative analysis was conducted using pre and post intervention interview data from a representative sample of the Struggling Readers only. Interviews from all participants from the 2005 reading cohort (Struggling Readers, $n = 11$), along with a sample of interviews from the 2009 literacy cohort (Struggling Readers, $n = 6$, mean age $= 17$, males $= 67\%$, females $= 33\%$) were analysed. The 6 selected youth from the 2009 cohort (50\% of the 2009 writing group) were additionally interviewed about their writing experiences and perceptions. Youth from this latter group were selected based on their initial reading scores, to ensure that they would be representative of their Struggling Reader peer group.
The interviews consisted of open-ended questions that enabled researchers to develop comprehensive understandings of the participants’ literacy experiences (Roberts & Cairns, 1999). Please refer to Appendix K for interview questions. Each interview began with a neutral question about reading: “What kinds of materials do you like to read?” and was followed by additional inquiries regarding the youths’ reading experiences (e.g., Describe yourself as a reader. Describe your reading skills.) Writing-related questions, administered to the 2009 subsample, mirrored those asked about reading (e.g., What kinds of writing do you do - for example, email, stories, notes, poetry, essays, schoolwork, journal?). For both cohorts, questions about the participants expectations for the program (e.g., Why are you participating in the summer program?), and later evaluation of the intervention (e.g., Tell me about your overall experience in the program), were also included. The pre-intervention interview consisted of 23 questions, while the post-intervention interview included a total of 40 semi-structured questions.

Participant responses to each question ranged from one word to paragraphs of nine sentences. Each interview was analysed thematically using several strategies from grounded theory methodology (Strauss & Corbin, 1998). Please refer back to the Methods Section - Data Analysis & Validity Procedures for a more detailed explanation of the procedures used for Qualitative Analysis. All interviews underwent the initial process of ‘open coding’, whereby each participant’s responses were broken down into words, phrases, or sentences that represented meaningful units. In total, 3138 meaning units were independently coded from the pre and post interviews (1966 = reading, 574 = writing, 598 = program). This was followed by a second data distillation pass which saw the 3138 meaning units distilled to 36 codes. From the existing 36 codes, the data was then recoded for a third time and collapsed
to reveal 4 overarching categories which consist of 12 refined subcategories. Results are summarized and presented in Table 35.

Table 35

Emergent Qualitative Data Categories & Subcategories

<table>
<thead>
<tr>
<th>Category 1: Literacy-Based Activity</th>
<th>Category 2: Literacy Perceptions</th>
<th>Category 3: Perceptions of Self</th>
<th>Category 4: Program Perceptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time Spent Reading/Writing</td>
<td>Need for Intervention</td>
<td>Self-Image</td>
<td>Program Expectations &amp; Motivations</td>
</tr>
<tr>
<td>Types of Materials Read/Written</td>
<td>Perception of Importance</td>
<td>Perception of Self As Reader/Writer</td>
<td>Program Experiences &amp; Outcomes</td>
</tr>
<tr>
<td>Context &amp; Engagement in Reading/Writing Activity</td>
<td>Attitudes toward Reading/Writing</td>
<td>Perception of Basic Reading/Writing Skills</td>
<td>Broader Perspectives</td>
</tr>
</tbody>
</table>

These categories were then analysed to reveal underlying themes and patterns.

During this fourth iterative pass of data analysis, the following 5 themes emerged: Specific Skills Acquired, Social-Emotional Outcomes, Metacognitive Awareness Outcomes, Internal Motivation, Aspiration and Hope for the Future.

Descriptions of the pre and/or post data for each category and its respective subcategories are provided below, followed by discussion of the emergent themes and patterns revealed. Results for the two categories, Literacy-Based Activity and Perceptions of Literacy, are presented initially. Within each of these categories, reading related responses are discussed first, followed by an exploration of writing related results. Reading and writing findings are then commented on collectively in each respective category discussion. These sections are followed by a discussion of the final two categories, Perceptions of Self and
Program Perceptions, which take a combined look into the reading and writing related experiences and thoughts of these youth.

Category 1: Literacy-Based Activity.

<table>
<thead>
<tr>
<th>Category 1: Literacy-Based Activity</th>
<th>Category 2: Literacy Perceptions</th>
<th>Category 3: Perceptions of Self</th>
<th>Category 4: Program Perceptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time Spent Reading/Writing</td>
<td>Need for Intervention</td>
<td>Self-Image</td>
<td>Program Expectations &amp; Motivations</td>
</tr>
<tr>
<td>Types of Materials Read/Written</td>
<td>Perception of Importance</td>
<td>Perception of Self As Reader/Writer</td>
<td>Program Experiences &amp; Outcomes</td>
</tr>
<tr>
<td>Context &amp; Engagement in Reading/Writing Activity</td>
<td>Attitudes toward Reading/Writing</td>
<td>Perception of Basic Reading/Writing Skills</td>
<td>Broader Perspectives</td>
</tr>
</tbody>
</table>

Several topics emerged from the 2005 and 2009 interviews that pertained to general reading and writing activities of the struggling youth-in-care readers. These issues centered around three sub-categories: A) Time Spent Reading/Writing, B) Types of Materials Read/Written, C) Context of and Engagement in Reading/Writing Activity. Each sub-category addresses issues specific to the Struggling Readers’ literacy experiences both prior to and following intervention and reflects a general pattern of increase in the participants’ commitment to reading and writing. Results pertaining to reading activity are presented first, followed by a review of writing-related findings.

Reading Activity.

“...when I read a book, sometimes it’s interesting and sometimes it’s not really interesting, but when I finish it and understand it, I want to tell other people that this is what I read...”. (17 year old male Struggling Reader, 2005)
A) Time Spent Reading. Prior to the reading intervention, the Struggling Readers indicated that it was a relatively rare occurrence for them to be engaged in reading as an exclusively solitary act. Below are sample statements from four participants about the time they spent on reading prior to the intervention:

“I read maybe once a month…the longest I could ever read is a half-an-hour.”
“I read for about 10 minutes, 20 minutes…maybe 2 pages once in a blue moon.”
“I don’t read often, maybe 5 minutes.”
“I don’t read. I only read when I have to read.”

Following the intervention, the Struggling Readers’ reported marked increases in time spent reading outside of class. Participants from both cohorts reported reading gains that varied in length (from 5 minutes to 60 minutes) and in frequency (include reading multiple times per week). Some sample statements after the intervention were as follows:

“I’ve started reading every day.”
“I read at least 3 times a day.”
“I now read 2 to 3 times a week.”
“I read every day for at least an hour.”

B) Types of Materials Read. There was a dramatic shift in the types of materials that the Struggling Readers claimed to read from pre-intervention to post-intervention. In the initial interview, when asked what types of materials the participants like to read, participants reported general material names such as “newspapers”, “magazines” and “library books”. One youth from the 2009 group even went so far as to say “I don’t read anything, I watch movies... it is so much easier!”

Results from the post intervention data revealed an increase in literacy awareness. This was evidenced by the shift from general responses to both specifically named materials (such as “Twilight and House of Night Series”, “Titanic”, “Stones”, “The 24 Hour Daily”
and “Sponge Bob Comics”) and general, but interest specific, responses (such as “Romance Novels”, “Myths”, “Choose-Your-Own-Adventure Stories”, “Japanese Anime, “Chapter Books”, “Non-fiction Books”, and “Picture Books”). While participants were initially aware of types of materials that one could read, the new level of specificity and the volume of named materials post intervention suggested that the Struggling Readers became more aware of reading sources, and possibly more interested and involved with a variety of reading materials.

C) Context of & Engagement in Reading. There was an explicit advance following the remedial programs in the participants’ awareness of specific and relevant contexts in which reading may become part of their daily lives. Prior to intervention, few participants from both cohorts reported times or contexts in which they would engage in reading activities. For example, when probed on his response that “I never read, unless I have to”, one 15 year-old Struggling Reader acknowledged that the context of his reading activity was limited to “school and that”. Others indicated that they read in more passive, isolated, and possibly negative contexts such as “when bored”, “when going to sleep”, “when no one can see”, or “when sad”. Others shared intimate feelings and experiences which had influenced their lack of engagement with reading like, “reading makes me feel stressed out”, “it’s a huge headache”, and “people always make fun of my reading”. Given these experiences, it is not surprising then that one 16 year-old participant stated that “most times, I just don’t bother.” Of all of the interviews conducted and sampled, only 1 youth, from the 2009 cohort, suggested that prior to the intervention reading had a positive influence, indicating “it helps me relax”.

The post intervention interviews revealed considerable positive development in the participants’ knowledge of contextual references and uses for reading activity. Struggling Readers reported engaging in reading activity “when travelling to school”; “when travelling home from work”; “in the mornings”; “when on the subway or when sitting on the bus”, “when preparing resumes”; “when working on a computer”; or “when relaxing at home” to name a few. Others now expressed that they read in more positive contexts, “when happy”, and with conviction, “when I get into a book, I carry it everywhere I go”.

Of note were the profound engagement shifts reported by one participant from the 2005 cohort and another from the 2009 group. During the pre-intervention interview, one youth acknowledged that her low literacy level contributed to feeling inadequate when she compared herself to her younger sibling. However, during the post interview she reported that her reading engagement and confidence had increased to the extent that she now proudly participated in the family reading hour – a time that was once dreaded and seriously avoided.

“I read on Tuesdays, from eight o’clock to nine o’clock, for about an hour. It is the time when everybody in the family reads. We all get together and read.” (16 year old Struggling Reader, 2005)

The other referenced youth also demonstrated a confidence following the intervention that appeared to provide him with a renewed sense of purpose and place for reading in his life. This young man was first known for his response that “reading is just not a hobby of mine”. At post intervention, he told the interviewer:

“I’ve actually been teaching my mom how to sound out words. Before, I could never really do that”. (16 year old Struggling Reader, 2009)

Results suggested a substantial increase in the circumstances and a shift in the perceptions of how the Struggling Readers viewed reading to occur or have a function in their daily lives. Reading activity was now described in more positive, productive and
purposeful terms, and was no longer alluded to as being an isolated act, used as a form of
distraction, or as a response to emotional upset. In fact, post data responses revealed that
reading was now something in which the Struggling Readers engaged and enjoyed. Some
admitted that they had “surprised themselves” and that they were no longer afraid or too
intimidated to engage in reading activities.

Writing Activity.

“…if it’s on my mind, it’s usually something that is bothering me or something that I
want to say but am not able to, so I write to get things off my mind…” (17 year old
female Struggling Reader, 2009)

A) Time Spent Writing. Prior to intervention, the duration of time in which the
Struggling Readers engaged in writing as an exclusive solitary act was quite varied. Some
recognized writing’s place among everyday demands even if minute, others spent some time
writing for personal reasons, while still others (the majority) admitted to writing very
infrequently. A sampling of their pre-intervention statements concerning the time they spent
writing are:

“I write all the time…everyday…maybe for about 10 minutes.”
“I don’t write very often.”
“I write as little as possible.”
“I probably write maybe 2 or 3 times in a week.”
“I started writing a long time ago, maybe an hour a day.”

Following the intervention, the Struggling Readers unanimously reported marked increases
in time spent writing outside of the program, regardless of previous practices. Not one
response relating to extracurricular time spent writing had negative undertones; rather,
participants appeared excited to share how much time they dedicated to writing, along with how much writing they were now producing. Some illustrative post-intervention statements are:

“I'm writing at least every day, for an 1 ½ to 2 hours for raps and stuff.”
“The other day I did a story about a storm, I did it on a full page.”
“After the program, I try to write 1 or 2 pages a day.”
“I have a diary I write in every night.”
“Since the program, I have been writing way longer emails, messages and text messages. My friends have texted back to me and said, ‘wow, you are writing back a lot more than usual!’”

B) Types of Materials Written. Much like the trends seen in the youths’ reading activities following the intervention, there was a positive shift in the types of writing that the Struggling Readers engaged in post-program. In the initial interviews, when asked what types of writing the participants tended to produce (if any), the Struggling Readers made vague references to things like “I just type stuff”; “rough writing”, and “random stuff”, or referenced their obligations to write for school, “school stuff, little notes”, “story writing, essay writing, lab reports”, “journals and stuff like that”.

Results from the post intervention data revealed more purposeful and specific types of writing activities, such as “emails, Facebook, stories and the odd rap”, “emails, a journal, a book... well, not exactly a book but I’m writing my ideas down”, “I like to write stories and poems”, and “I write about how my day went or how I’m feeling or my thoughts”. Following the intervention, it became apparent that the participants developed a new level of interest in writing and an overall general engagement that appeared to be lacking earlier. Analysis of responses revealed that an overwhelming number of the youth expressed that they are now writing for themselves, “I like to write things on my mind”. While school, job
and other life demands were certainly still purposes for writing. “I want to write a cover letter, my resume, and a letter to my brother”, it appeared that almost all of the youth invested in writing for a purpose beyond its pure function.

C) Context of & Engagement in Writing. Prior to intervention, few participants reported times or contexts in which they would engage in writing activities. Many found writing to be an activity that was associated with negativity and struggle: “It’s really boring, and it hurts my hand... it just takes me so long”, “I often exclude myself from others because I think they write better than me”, “There is just too much pressure and stress” and “I’m not good at all”. Several alluded to the fact that they were not “comfortable” or “confident” with writing. “It hinders me always because I can’t do it well. I’m not comfortable filling things out on the spot. [Writing] poses a threat to me; like I’m just scared to do it”. Given these experiences, many of the youth shared that they “just don’t do it”, “never really tried”, “would give up” and “it’s not something [they are] really proud of”.

The post intervention interviews revealed considerable growth in the participants’ view of writing. On average, responses no longer reflected negative connotations about writing but rather remarks reflected more positive and productive thoughts on writing and its purposes, for example:

“I like to write a lot because it helps to get rid of the thoughts in my mind.”
“Writing makes me feel like ‘I’m there’, when I write, I get my expressions down.”
“Writing is personal, you write for yourself.”
“I’m excited about writing, especially when I have a good story to write down.”
“Writing makes me feel good, it keeps me going.”
“Writing makes me feel alive.”
It appeared that following intervention, the Struggling Readers found writing to have therapeutic benefits, serving to help relieve their stresses and to increase positive feelings. Results suggested a substantial shift in the perceptions of how writing functions in the youths’ daily lives. Writing activity was now described in more positive, productive and purposeful terms. In fact, post data responses revealed that writing was now something in which the Struggling Readers engaged and enjoyed.

Discussion of Category 1 Findings & Themes – Literacy Activity. The results from the pre and post interviews suggested that after having received intensive instruction in reading and writing, the maltreated youth-in-care with reading difficulties made substantial personal improvements in their literacy practices and literacy awareness. Themes concerning skill development, internal motivation, social-emotional, and metacognitive awareness outcomes became evident. As the participants discussed topics relating to their engagement with reading and writing during the post interviews, it became clear that the youth had developed an in-depth understanding and awareness of how reading and writing played significant roles in their day-to-day endeavours. The Struggling Readers also appeared to be able to sustain and endure longer periods of time reading and writing and had become more familiar with a wider breath of materials from which to read and purposes for which to write. These findings indicated that participation in the intervention program may have facilitated an increase in self-understanding, skill development and social-connectedness.

The post intervention data also reflected increases in the level of the participants’ confidence in reading and writing, and general ease in participating in literacy activities. This was evident by the increase in the Struggling Readers’ reports that they were more
willing to engage in literacy activities for a variety of purposes, under a multitude of “every-
day” living conditions, and for longer periods of time.

The participants appeared to have further developed a more specific understanding of
the types and level of reading materials that they found to be personally engaging, relevant,
and interesting. For writing, they expanded their experiences to include writing as a means
of personal expression and to foster emotional well-being. These developments were
extremely positive. Research on internal motivation and metacognition supported the view
that if one is aware of their own learning style and personal needs, this knowledge will
increase perceptions of competence and efficacy, and in turn, internal motivation (Brown,
Bransord, Ferrara, & Campione, 1983; Deci & Ryan, 1985; Morris, 1990). These findings
were particularly exciting as increases to the youths’ engagement with literacy have the
potential to facilitate new learning opportunities and inspire overall positive cycles of
motivation, engagement and learning.

Results regarding the apparent transformations in the youths’ literacy activities were
particularly encouraging as they provided support for the possibility that participation in a
literacy intervention program may have a positive impact on development for maltreated
youth with reading difficulties. Increasing the length of time spent reading and writing,
expanding the types of materials read and written, and enhancing reading and writing
contexts and engagement were not direct focuses of the summer intervention, but rather,
seemed to be associated benefits resulting from program participation.
Category 2: Literacy Perceptions.

Several topics emerged from the interviews pertaining to the maltreated youths’ perceptions of reading and writing. This was the largest category as much of the participants’ conversational discourse revolved around issues relating to the emergent sub-categories: A) Need for Intervention, B) Perceptions of Importance, and C) Attitudes toward Reading/Writing. Each sub-category addresses issues specific to the Struggling Readers’ literacy experiences either prior to and/or following intervention.

“Literacy is very important. Youth need a literacy program where they feel safe, where they are able to feel good about themselves and their success. We need more programs where we can get support so we can read a book without someone else, write letters to people we love, and read to our children.” (17 year old female Struggling Reader, 2009)

A) Need for Intervention. At the onset of the 2005 and 2009 literacy programs, the participants expressed several reasons for wanting to participate in a remedial intervention. Analysis of their responses indicated that their motivation for partaking in the intervention generally revolved around aspirations for higher learning, for gaining back lost time, and for fostering social-emotional gains. For example they stated:

“I need a little bit more help with reading and writing and learning.”

“Being able to see a word and know how to break it down to pronounce it and better understand.”
“I have good ideas and I want to get them out but I don’t know the skills to get them out properly. I feel blocked.”

“At this stage in my life, I have missed out on a lot. I want to take every opportunity to catch up as much as possible.”

“So I can develop my skills and to meet different people, and at the same time to make a friend.”

“I want to show myself that I can do it.”

One youth nicely summed up the sentiments of many:

“It’s very important for me ... because further on in life, you’re going to need education to take you places. And if you don’t have that, then I think people will treat you like dirt. It’s very important to have...it’s so like, lasting. It’s something that when you get, no one can take it away from you.”

Many expressed a need for change and a desire for improvement in their reading and writing expertise. They offered rationales that reflected a general awareness of their current skill level and a need for intervention, even while knowing (and sharing) that reading, and writing in particular, were hard for them and not preferred activities. Their rationales included desires to improve spelling, pronunciation, vocabulary, grammar, and their overall level of self-confidence. Only 1 participant among the 2 cohorts differed in sentiment from the other youth, as participation in the intervention for this Struggling Reader became a required component of his plan of care.

B) Perceptions of Importance. At both time points the Struggling Readers were well aware of the numerous daily literacy demands placed on them within society. Many acknowledged that reading was essential to independence, functioning in the work place, for completing homework and for being connected to the world at large (e.g., “...being able to
read a newspaper headline...”). The potency of the importance of reading came across at all times, with almost an air of urgency and matter-of-factness. Several participants clearly acknowledged this importance as follows:

“If you don’t know how to read, you have to ask others for help and that’s not good, you should know how to do that on your own.”

“I need it for my education and employment.”

“If you get something in the mail, you can’t read it. It says something important...you are never going to know.”

“I need to know how to read so that I can get a job, feel positive, motivated and smart.”

“I can’t have a proper relationship until I learn how to read properly – I need to learn so that I can have confidence in myself.”

“It’s so important because you are always going to have to read, no matter where you are, what you are doing... it is always going to be around.”

“Reading is what you really need to get through life.”

Generally, perceptions of writing did not display the same degree of critical need as did reading. Almost all participants recognized the importance of writing and personal improvement, but participant responses were less specific and non-directive to the ways in which writing, pre-intervention, was essential in their daily lives. “It’s very important for me to be good at writing”; Writing is somewhat important; you’re always going to have to write something”. As well, responses at times were contradictory: “Writing is very important…it’s not really a priority for me”, “I guess it’s important. I just don’t feel the need to be very good at it”; “Well, it’s important but I chose it not to be important because I usually don’t like writing”. It appeared as though many of the youth did not have the same drive to learn
to write as they did to learn to read. Further analysis of these comments revealed a lack of skill as being one of the driving forces behind the youths’ indifference towards writing.

A rather dramatic shift occurred post-intervention in the youths’ reasons why writing was a needed skill and in how important it actually was to them. “Writing is very important to me. You need to be able to write your assignments and write them well enough to get good marks”; “Writing is very important to me. You have to be able to write and do everything, to give directions, to actually keep a good job and to have notes to remember what you have to do”. Post-intervention, the youth appeared to have gained an awareness of how much writing was indeed a central part of their daily activities, making many more definite and specific statements about the significance of writing.

Views on Reading.

C) Attitudes Toward Reading. Despite the widespread recognition for the need and importance of reading, over half of the participants (approximately 60%) proclaimed that they did not enjoy or were not interested in the actual act of reading prior to the intervention program. Among these youth, almost verbatim responses were generated across both cohorts of Struggling Readers: “I don’t like reading”; “[Reading] doesn’t interest me, it’s boring”; “I might like it if I could read, but I can’t, so I don’t”; “[Reading] doesn’t interest me…I’m not really good at it”; and “[I don’t enjoy reading]...it puts me to sleep”; “I’m slow and I have to reread everything. I don’t’ enjoy it”. Many of the ‘dislike’ claims were general and declarative in nature and upon further analysis were understood as relating to the participants’ underdeveloped reading skills.

Following the intervention, approximately 60% of the participants claimed that they now enjoyed and appreciated what they personally gained from the act of reading. Quotes describing these sentiments included:
“I’m really into it”; “It keeps me company”; “I enjoy reading, to be able to understand, and to get a laugh out of it”; “If it catches my attention, then I get into it and I want to read more…it’s like I’m there, I’m the main character”; “[It’s] something real”; “I like reading. I get feeling when I’m reading, my pronouncing is improving and I get confident”; “[I enjoy reading] now, because I can”.

For those who still indicated a ‘dislike’ to reading following intervention, their aversion to reading had been very evident in the initial pre-intervention responses and appeared to be aimed at a lack of interest in particular types of materials, rather than with the reading act itself. “I sometimes enjoy reading, but it depends on the book”; “If I don’t like the title, then I won’t read the book”; “Enjoy reading? Well, it depends if it is a good comic or not”; “Reading can get boring, mostly if the book isn’t interesting”.

Generally, there was less mention of personal frustration or awareness of lack of skills as rationales for disliking reading, post-intervention. Some mentioned that they disliked reading fairy tales, and/or reading on computers, and one particular participant stated: “I don’t like reading books without pictures and I won’t read books if they’re not interesting. Sponge Bob and Anime, that’s interesting.” While this participant, and several others like him, expressed a dislike for a particular type of reading material, this individual had inadvertently identified that he was able to discern “likes” and “dislikes” of reading materials, and this in itself, may be an indicator of the development of metacognitive awareness of personal interest and self-knowledge that may help foster future reading engagement and/or activity.

**Views on Writing.**

*C) Attitudes Toward Writing*. Attitudes towards writing were not unlike those of the youths’ attitudes toward reading, pre-intervention. Almost unanimously, the youth stated
that they did not enjoy or were not interested in writing and found it to be “boring”, “painful”, and “hard”. When asked to talk about how they felt about writing, the youth described a general dislike and tendency toward avoidance. “I hate punctuation”; “I don’t really like to do it every day of my life”; “English is the hardest language – too many meanings and spelling for the same word.” Many of the ‘dislike’ claims reflected aspects of writing that the youth found difficult and, as was the case with importance, reflected their struggles with underdeveloped skills.

When asked directly if the Struggling Readers enjoyed writing following the intervention, the responses were varied and at first suggested little, if any, change in the youths’ attitudes toward writing. Several of the youth continued to suggest that they “just aren’t into it” or that writing remains “not that fun”. A closer look at these responses revealed that the youths’ negativity was typically directed at disliking a particular component of the writing process, “I don’t like writing because of my handwriting”; “I really do not like using the dictionary”, or as indicated above, was reflective of difficulties with skill, “Writing makes me frustrated”.

At the same time, positive reflections about writing were indeed evident. “My attitude towards writing has change a little bit. I feel better about writing, I feel like I have more confidence”; “Writing makes me feel good, it keeps me going”; “Writing is good, especially when I think of stuff that is interesting for me and I write it down and keep going”.

Overall, the majority of the youth sampled demonstrated some form of fresh appreciation for writing following intervention. Generally, while writing remained difficult for many, there was a renewed energy for being able to express oneself through the written word.
Discussion of Category 2 Findings & Themes – Perceptions of Literacy. The majority of the maltreated youth-in-care with reading difficulties made substantial alterations to their perceptions of reading and writing post intervention. Themes of specific skill development, internal motivation, social-emotional development, metacognitive awareness outcomes, and aspiration and hope became evident.

Results from the pre and post interviews suggested that for some participants reading and/or writing were not enjoyable acts. Even following intervention, some participants remained impartial to these activities, which was often attributed to being uninterested in particular types of materials or to a dislike due to difficulties with completing the act itself. Other participants experienced a shift from their initial ambivalence to a new enjoyment and an appreciation for literacy. Positive shifts in attitudes were connected to perceptions of skill development, whereby perceived increases in basic skills fuelled the Struggling Readers’ confidence and subsequent enjoyment. Along emotional and metacognitive dimensions, participants articulated an appreciation for reading in that it provided them with a sense of companionship and a way to be connected to something emotional, grounded and meaningful. Likewise, writing appeared to provide the youth with a therapeutic outlet to express their emotions and thoughts in a private, safe and effective manner. Invoking enjoyment in an activity that one finds extremely difficult was not an easy task, as was creating a sense of community and support when one often feels isolated. The fact that these maltreated youth were able to make such positive gains from literacy was remarkable and paid tribute to the power of intervention.

As the participants discussed topics relating to their perceptions of reading during both the pre and post interviews, it became clear that they had a strong awareness of the
importance and inherent value of reading. Participants acknowledged that the inability to read impeded life outcomes such as furthering educational achievements and occupational opportunities. They also articulated a belief and understanding that developing basic reading skills was inherently related to fostering autonomy, security, stability and self-confidence. Thus, it may be that the desire for the associated benefits of sound reading abilities served as strong internal motivators for the Struggling Readers in their pursuit of improved reading skills.

Perceptions of the importance of writing was less defined pre intervention, with youth expressing a general lack of interest and diminished awareness of how writing could be instrumental to success in their lives. Post intervention, while for some the enjoyment of writing (or lack thereof) remained the same at the surface level, a deeper review of responses demonstrated that the writers on average found solace in writing and shared an excitement over using it for ‘personal expression’ with others or themselves.

These findings supported the notion that participating in a literacy intervention program can facilitate positive perceptions of reading and writing in maltreated youth with reading difficulties. As was the case with the Category 1 outcomes, the enjoyment, importance and the need for literacy were not explicitly discussed during the course of the program. Nevertheless, it appeared that there was substantial growth in these areas, contributing to real and meaningful change in the lives of these youth.
Category 3: Perceptions of Self.

Several topics emerged from the participant interviews that pertained to the youth-in-care Struggling Readers’ perceptions of their own reading and writing competence. These issues centred around three main sub-categories: A) Self-Image; B) Perceptions of Self as Reader/Writer, and C) Perceptions of Basic Skills. These sub-categories address issues specific to the participants’ literacy experiences both prior to and following intervention and reflect a general positive trend in their perceptions of themselves as readers and writers and of their reading and writing proficiency.

A) Self-Image.

“I care about how I present myself, how I speak and communicate.” (16 year-old Struggling Reader, 2009)

For many participants, attitudes towards reading and writing skills are intrinsically tied to social perceptions and norms. The perceived lack of age-appropriate literacy skills is correlated with a negative self-image in the eyes of friends, peers, family members and other authority figures. Many participants express a deep concern for reading and writing tasks performed in a social environment such as a school classroom. For example, the majority of participants expressed an outright disdain for reading “out loud” fearing the judgement of
other classmates and teachers. Another participant describes the difficulty of attending a “mainstream school” where “everyone else has perfect sentences and huge words”. Others perceived their reading and writing difficulties as a social obstacle - particularly in relation to social media and the “normal stuff that all of [their] friends do” such as participating in Facebook, instant messaging, and other web-based forms of communication. One participant describes how “[my friends] write huge paragraphs and I’ll answer back in like one sentence”. In this sense, participants felt they could not respond to friends’ messages with the same calibre of writing in terms of quantity and level of vocabulary.

When asked about the importance of good reading/writing skills prior to intervention, several participants responded by emphasizing their significance in relation to social perceptions. This is exemplified by one participant in particular when she suggests that “proper spelling is important to me so that my friends will not get annoyed with my writing”. In post-intervention discussions, perceived improvements in reading and writing skills are often framed within the context of social and/or familial networks, often reiterated from the perspective of a peer or parental figure. For example, when a participant describes how she is “a little bit better at writing now”, she continues by confirming that “my friends and family say that my spelling has gotten a lot better”. Overall, the majority of participants described the difficulty of “opening up” about their reading/writing skills and confronting a self-image which acknowledges and accepts these perceived deficiencies in a social setting that values strong literacy skills.
Reading Self-Concept.

B) Perceptions of Self as Reader.

“I would say that I have difficulty sometimes, but since the past couple of weeks, months, I’ve improved a lot... I struggle with reading a lot, but I’m, improving. So that’s a good thing.” (16 year old female Struggling Reader, 2005)

Following the remedial program, there was a noticeable change in the participants’ perceptions of themselves as readers. Prior to the intervention, many participants describe a “lack of confidence” in themselves as readers. Almost all agreed that they needed to improve their reading skills as they were functioning at a “below average” level. Some participants perceived themselves as readers with a degree of ambivalence - describing themselves in both positive and negative terms in response to different interview questions:

“I struggle a lot... I’m a Good Reader.”
“I can read...I doubt myself.”
“I’m good at reading...I’m a bad reader.”

The participants’ responses following intervention reflected a more balanced, tempered and realistic understanding of themselves as readers, with many participants indicating an overall enhancement in their practices.

“I think I’m a fast reader.”
“I can read books now...I can understand what I’m reading.”
“It makes me feel good...I can actually read books and understand.”
“I’m getting a lot better...I understand, but I still have trouble pronouncing big words.”

“I’m alright... I’m reading much better, and for the first time in my life I’m doing a resume.”

In spite of the transformations in overall perceptions of the participants’ reading-selves, almost all of the participants demonstrated hopeful acknowledgments of room for
improvement. Their sentiments can be summed up best by the words of a 20 year old Struggling Reader participant who stated:

“I can read a little bit more… I can improve more.”

C) Perceptions of Basic Reading Skills. Prior to the reading intervention, participants almost unanimously expressed an understanding and/or desire to improve their basic skills in reading. Several participants described wanting to develop their skills in spelling, vocabulary knowledge, phonological processing, pronunciation and reading comprehension.

“I need to improve by sounding out words and spelling.”
“I need to improve my pronunciation and grammar.”
“I need to improve a little bit more… like pronouncing the words properly.”
“I need to improve like with big words in a novel and certain words that adults read.”
“I can’t understand the words, meaning of what is written.”
“I need to understand what I am reading.”

Many have coped thus far by relying on a variety of strategies that though helpful are somewhat impoverished and may be at a personal cost. When asked to describe their strategies for when they come across a word that they cannot read, several of the participants described their dependence on approaches that while resourceful, lacked any reference or understanding of the processes necessary for decoding.

Often participants reported a reliance on others to help guide them in their reading:

“When I don’t understand, I’ll ask someone.”
“I prefer it when people read to me… I’ll pay someone to read to me because it takes me a long time.”
“I’ll write it down and ask somebody what it means.”
As well, a few participants expressed attempts at using the dictionary despite the realization that this strategy is mostly difficult and unsuccessful for them:

“I look in the dictionary, but it’s too hard so I put the book down.”

Some of the Struggling Readers also indicated that they attempt to read difficult words by guessing and a few suggested that they attempt to break apart the sounds in the words:

“I tried to sound it out, but I can’t and then I stop reading.”
“I go letter by letter, and you just go.”
“I’d sound it out even though I don’t… I doubt myself.”

One of the most frequent responses from the participants in the pre interview however, was that they simply skip difficult words altogether:

“If I can’t read a word, I skip it.”
“I’ll just keep reading.”
“Sometimes I’ll just read along or sometimes I’ll stop.”

Following the intervention, the Struggling Readers’ reported that their skills in reading had increased markedly. Of note was the specificity and understanding of reading processes that participants referred to when reporting their perceived gains. Post intervention, participants reported reading gains in pronunciation, letter-sound knowledge, spelling, vocabulary and reading comprehension:

“I see a change in my reading.”
“I can pronounce the letters and the alphabet… the different sounds they make.”
“I learned my vowels and… about 5 strategies that I can use.”
“I changed how I pronounced the words.”
“I know how to say big words and how to spell it.”
“[My reading skills have changed] in vocabulary, big words and all the time I want to talk to my friends and just use words that even they don’t know.”
“I have so many strategies of pronouncing the word and knowing the meaning of the word, so now I understand it more. I understand what I’m actually reading.”

There was also a dramatic shift in the number and types of strategies that the participants report using when reading difficult words. The participants described many more concrete and explicit approaches for attacking unfamiliar words. It appeared that many of them felt that they had been outfitted with a toolkit for reading.

“I have a lot of [reading] skills: like vowel sounds, rhyming, sounding out...”

“First I’ll try to break it down, take out morphographs that I know and if it is still hard, I ask someone for help. But mostly, by breaking it down... I think that should help.”

“I stop and think about it... it’s like seeing the word baby, bbb-aaa-by and then you got it.”

“I drop the words that I know or I ‘spy’ them and I drop the vowel and try to connect the words.”

“I’d ‘peel off’ the words that I know and then come down to the root and then sound that out and then put it all together and then I’d have the word.”

“I think about the strategies – sounding out, vowel alert, spy, root words and peeling off – things I mostly slept through in school.”

Following intervention, the participants’ responses also demonstrated a sense of renewed confidence in their own reading abilities. As one Struggling Reader exclaimed immediately in response to the question, ‘what do you do when you encounter a difficult word”? “I just use one of my strategies”. There was an abundance of responses that reflected these sentiments following their participation in the reading intervention.

“Even if I can’t read it, I can figure it out – know what the word is.”

“I can communicate with others, I can speak clearly now.”

“The way I speak, I know what I’m saying. I know I’m pronouncing the words properly.”

“I guess I can read anything.”
“I’ve actually been teaching my mother how to sound out words.”

**Writing Self-concept.**

*B) Perceptions of Self as Writer.*

“I have good ideas and I want to get them out but I block, where I can’t get them out because I don’t know the skills to be able to get them out properly.” (16 year-old female Struggling Reader, 2009)

There was also a change following the remedial program in the participants’ perceptions of themselves as writers. Prior to the intervention, several participants expressed a great deal of frustration with themselves as writers caused by an inability to accurately articulate their ideas and opinions. The majority of participants describe their writing experiences as stressful and uncomfortable. In most cases, participants expressed a great deal of concern over the clarity and quality of hand-written materials, the lack of comprehension on the part of their intended audience and the perceived simplicity of the language used.

“My vocabulary in my head is big but my vocabulary [in] writing is not.”

“I stopped writing [to my girlfriend] because my spelling was really bad and...just the pressure and the stress.”

“I have really bad confidence with my handwriting and spelling.”

“I’m not comfortable filling out things on the spot, so I’m scared to do it.”

“[My writing] usually doesn’t make any sense. [I use] small words - trying to put all my thoughts together in the smallest way I could.”

The participants’ responses following intervention reflected an increased sense of self-confidence with regards to their writing abilities, a perceived expansion of their vocabulary and thus, an improved capacity to articulate the intended message and meaning of their written material. Many participants indicated an overall enhancement in their practices.
“I feel better about my writing, I feel like I have more confidence.”
“I’m a better writer – neater.”
“I can actually write better so I can actually stand what I’m writing.”
“I can write long and really interesting stories!”
“I feel more comfortable writing, I write more and I text more than I speak on my phone.”
“I am able to share my stories because they make sense.”

While participants demonstrated a varying degree of improvement in terms of their writing competencies, the most frequently communicated change in writing practice was a perceived increase in the frequency of writing activities as well as an increase in the amount of effort and self-reflection throughout the writing process.

“Since the program, I have been writing more...I am better at writing now because of effort - I put more time and thought into writing.”

C) Perceptions of Basic Writing Skills. Prior to the writing intervention, participants almost unanimously expressed an understanding and/or desire to improve their basic writing skills. Several participants described wanting to develop their skills in: spelling, vocabulary knowledge, phonological processing, syntax and sentence structure, descriptive writing, writing volume and handwriting. This sounds like they are saying these terms. Perhaps it should say: Several participants ...skills. Spelling, vocabulary...and handwriting were among the topics alluded to by the youth for improvement.

“[I need to improve] my spelling, writing grammar properly and [making] my sentences make sense.”

“[I want] to be able to write a story in detail.”

“[I need to improve] my spelling and cursive writing...capitalization and also punctuation.”

“[I need to improve] with vowels - I’m very bad at vowels.”
“[I would like to improve] my penmanship, neater printing.”

“I have good ideas...but I don't have the skills to be able to get them out properly.”

Participants have relied on a variety of coping strategies similar to those listed in regards to reading skills. They often reported a reliance on others to help guide them in their writing practices: “If I didn’t know, I would ask someone how to spell it”. Many have demonstrated reluctance to using a dictionary as a reference tool - expressing total distain in some instances: “I really do not like the dictionary. Stupid dictionary with all those big words that do not actually help”! The most common coping strategy when it comes to writing is an attempt at “sounding out” words when confronted with a spelling uncertainty.

In post-program interviews, the struggling writers reported a noticeable improvement in their writing skills. Many participants reported writing gains in spelling, grammar, vocabulary, neatness and articulation, as well as writing volume:

“After being in the program, my writing skills have changed.”

“I am a better writer now, using punctuation more often, neater, writing in full sentences.”

“I am better at writing now because I am able to see words and understand what they mean.”

“I understand and am applying the strategy of asking questions and answering them to make my writing longer.”

“I know how to spell words that I probably just would have given up on before.”

The participants described many more concrete and explicit approaches for spelling unfamiliar words and improving the length and quality of writing materials. In particular, many continue to apply the Audience Reason Topic (ART) strategy when planning a writing project. For some, the writing program marked the first time they had incorporated a planning component in their overall writing strategy. One participant recalls “they taught us
[the importance] of writing down your thoughts and about what you had to write and the audience you have to write too”.

Discussion of Category 3 Findings & Themes – Perceptions of Self. It is understandable that having low reading and writing skills may have initially caused some individuals to develop conflicted reading/writing self-perceptions (e.g., acknowledging that they are both ‘good’ and ‘poor’ readers or writers). Further, research suggests that as a self-protecting mechanism, some children, adolescents and adults may embellish their perceptions of their own competence and/or abilities (Crabtree & Rutland, 2001; Harter, 1986; Van Larr & Sidanius, 2001). The initial findings that the Struggling Readers and Writers articulate conflicted self-perceptions may be an example of this mechanism, as acknowledging that one may not be privy to the life-outcome benefits associated with literacy skill may be threatening to the self-concept of the participants. However, after participating in the intervention the Struggling Readers and Writers may have been more confident, and able to base their self-perceptions on real and identifiable skills and gains, and thus, post intervention, were able to express a more temperate and objectively-based perspective of self as reader and writer.

It is encouraging then that following the intervention, many of the participants were able to reconfigure their self-views to align with more realistic yet positive opinions of themselves as readers and writers, and to see continued hope for improvement in their reading and overall being. Their responses suggested a more developed self-awareness of their true literacy skills, which in turn can nurture a motivation for further learning and an understanding of the areas needing attention for further progression.
Likewise, shifts in ambivalent perceptions of the self as reader/writer to more temperate, accurate and reflective perceptions placed the participants in a position of self-empowerment, as they better understood their strengths and needs.

The results from the pre and post interviews suggest that after having received intensive instruction in reading, the maltreated youth-in-care with reading difficulties made substantial personal gains in their perceptions of their reading competencies. Similar to the previous category findings, themes of specific skills acquired, social-emotional and metacognitive outcomes, internal motivation and indicators of hope for the future emerged from their responses.

As the participants discussed topics relating to their perceptions of their basic reading and writing skills during the pre-interviews, aspirations for proficiency, autonomy and maturity in reading and writing became evident in their self-statements about their specific literacy skill sets. Responses from the post interviews reflected feelings of advancements in these areas. Particularly, it appeared that the participants became better aware of and more familiar with a wider range of specific strategies, and that these skills are now in their possession and for use at will. The participants attributed the use of these strategies to perceived gains in vocabulary, phonological awareness, spelling, grammar and pre-writing planning. Additional increases in the level of the participants’ confidence in and ease with reading also became evident from their responses, as did an increase in their level of excitement and interest in learning. The participants generally felt positive about these gains, so much so that in some instances they wanted to share their results with others.

These developments are extremely encouraging, as it is evident that a sense of accomplishment, assurance and fervour for the participants’ newly acquired skills and knowledge induced a sense of hope, empowerment and internal drive in many of the
maltreated youth – characteristics that were not apparent in these individuals prior to the intervention. These findings reinforce the suggestion that participating in a literacy intervention program can have an impact at both the level of literacy skill development, and at the level of positive intrapersonal development. Further, an experience of success and achievement, as exemplified in the intervention program, may have a myriad of far-reaching and advantageous effects on the self-perceptions of maltreated youth struggling with reading and writing difficulties.

Category 4: Program Perceptions.

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Several topics emerged from the interviews that related to the struggling youth-in-care readers’ perceptions of the program. These issues centered around three main sub-categories: A) Program Expectations & Motivations, B) Program Experiences & Outcomes, and C) Broader Perspectives. Each sub-category addressed issues specific to the Struggling Readers’ program perceptions and experiences prior to and/or following intervention and reflected an upward trend in the participants’ outlook on life as a result of the program.

“I feel more confidence in my writing. I know how to spell words that I probably would have just given up on before and I’m more comfortable reading out loud. You should try this program, it’s really good. It helps you with your reading and writing skills and teaches you stuff you never knew.” (16 year old male Struggling Reader, 2009)
A) Program Expectations & Motivations. Prior to the intervention program, the Struggling Readers identified several expectations that they had for the literacy program itself. They indicated that they hoped that the program would help them with specific skill development, foster improved social skills and interpersonal communication, aid them financially from the honorariums received as being part of the program, and support their larger personal goals.

In terms of skill development, their expectations for the program were similar to the sentiments explored in previous categories. Participants expressed a desire to improve their skills in areas such as decoding, spelling, pronunciation, punctuation, and lexical knowledge. Ultimately, they hoped that the program would “make [them] a better reader”, “write longer things”, “help with commas, spelling, proper sentences and how to make one”, “improve [their] grammar”, and by the end “have more confidence in [themselves] and improve [their] learning skills”.

Almost all of the participants commented on wishes for social gains as part of their program experience. Participants perceived that the program would provide them with an opportunity to interact socially, as the program would help them “meet new people” and “make new friends”, widen their social circle and activities, (e.g., “gets me out of the house”, “help others learn, like how to teach kids”) and improve their interpersonal skills (e.g., “communicate better with others”, “be less scared of having people know that I can’t read or write”). Many also commented on the promise of the program helping them to “stay out of trouble”, “have a stable place to stay”, and to provide them with “something to do all summer”.
The participants also expected that the program would aid them financially in that “[they] get good pay”. Both cohorts of participants were remunerated $70.00 a week for their participation in the intervention over the 7-weeks. For a minority of the participants, compensation was a primary drive for their initial willingness to participate:

“[The primary reason I came to the program is] because I heard I was getting paid money and it’s something to do to keep me busy.”

“If they couldn’t pay me to come, I may not have been able to return. I live on my own and if I don’t have that support, how am I going to pay for food and rent?”

For others pay was secondary,

“[The primary reason I came to the program is to] develop skills, and transfer those skills to another place and then to get good pay.”

For most of the youth, payment was an added bonus:

“I’m here for the reading and writing part and to fix what I should have done a long time ago and correct myself for the future – getting paid was a really nice boost on top of it...”

“I say yes [to the program] before I even heard about the pay and then I was like, oh there’s pay - great. Now, I have no excuses.”

Several participants also remarked on the larger financial gain that participating in the program may afford them:

“I need this experience to get education because you need education to get a job.”

Furthermore, most participants described larger goals that they hoped that the program would help them achieve. Some described long-term specific occupational ambitions such as “becoming a carpenter, a police officer, a lawyer, a flight attendant, a veterinarian, a mechanic, and the owner of [their] own business”. Others had educational aspirations, such as attending college or university, and intentions of being able to “learn
more...follow up with [their] grades and to do good at school”. “If it means that coming here to learn the skills that I’m missing will help me go through the next few years easier then I’d rather be here!”

Some of the Struggling Readers viewed the program as a vehicle for achieving more personal objectives such as “actually finishing [a program] without getting kicked out”, “not feeling so behind”, and as able to “see [themself] as a better person”.

“I really want to push myself, prove people wrong, and show myself that I can do it.” (19 year-old male Struggling Reader, 2009)

“I want to teach myself how I learn, so I can better help myself.” (17 year-old female Struggling Reader, 2009)

Regardless of the motivation for attending, most felt that successfully completing the program would be an accomplishment in and of itself.

“I’ve set out some overlining goals, like ‘do the program’ and ‘try your best’. Whatever you get out of it, it’s an accomplishment. Even if you get like a couple of things out of it; it’s still an accomplishment. You know, maybe one or two skills that you didn’t before. Even if I don’t go up to like normal grade levels, I’ll be on my way. I’ll be learning the skills to get me there.” (16 year-old female Struggling Reader, 2009)

B) Program Experiences & Outcomes. Following the intervention, the majority of the participants praised the program as a constructive and valuable experience:

“It’s worth your time.”

“It was a great learning experience.”

“I learned allllllllllllll this stuff.”

“It helped me get a job.”

“I would even take it even if it wasn’t paid.”

“There’s only opportunity you can get from the program.”

“This place is great, just a great, great place.”
“I would recommend it.”

As well, there was a consistent feeling among the participants that the program was unlike other educational programs that they had previously taken part in:

“I would tell someone that you learn a lot of things that you don’t even learn at school... this will be a big impact on your life.”

“I knew this program is a really good program compared to most programs that we have in school...[the teacher] focuses, gives us as much attention as we want, actually helps...[the teacher] doesn’t just explain something and just leaves it, she gets it into your head.”

“I’m surprised that this program isn’t always run...you guys should be doing this all over. The program is the best and I’ve gone through a whole bunch like this and trust me, they are not the best.”

When probed on this topic further, an overwhelming number of the participants’ responses reflected aspects of the program’s structure that appeared to set it apart from others. Particularly, participant responses reflected a resounding appreciation for being with other youth with whom they can relate, both in terms of skill level and past histories. There was a buzz among the youth that participating in the program with other youth-in-care who struggled with reading contributed to them having an overall successful learning experience.

“The knowledge that I’m not alone in the fact that I have problems with school and the fact that there are a lot of kids in care who have a lot of problems with school was important to me.” (17 year-old female Struggling Reader, 2009)

It also became apparent that the group format and teaching style inherent to the program were of comfort to the youth and beneficial to their learning. Many commented on how they appreciated the small class size and individual attention that they received, along with the friendly, casual, yet educational environment provided by the staff.

“I really did enjoy the smaller group because any little problems you had would be addressed right there. You wouldn’t be left behind.”
“Each class had no more than 5 or 6 people, so there is a lot of one on one with other peers. It was nice having support from the teachers, on top of the support from other kids in the class.”

“The teachers are amazing, you actually learn. They break it down properly. Teachers teaching the way they teach, I’d come back for that.”

“All the skills, I learned them so easily here. They seemed so hard but [the teachers] break it down easy so you know how to use everything you need to know.”

“We got a lot of support for how to read and write and all those crazy skills. They taught us how to break it down so it was easier to do...”

Many of the youth further commented on several of the program’s components as being integral to their engagement, enjoyment, and interest throughout the summer. It appeared that each youth had a particular aspect of the program that they liked best, though unique features of the program like literacy games, the use of technology, and access to the ‘Lit For Life Lending Library’, were among the most popular.

“The activities are pretty interesting. [The teachers] made some games and had contests – that was pretty fun and [the activities] kinda help you memorize what you are learning.”

“We texted; it doesn’t seem like you are actually spelling and trying to think – you’re just having a conversation with someone.”

“I really enjoyed using the laptops and the cell phones. I loved using the technology for writing – that was an awesome part of the program.”

“You’re learning about reading and all of a sudden you’ve got a book interest and you walk by the library and you see a book you might like read. Might as well pick it up.”

“Some people don’t have a lot of access to books. It was nice to pick up a book for the summer program and be able to read and put the skills we are learning to use.”

Cumulatively, the identified components of the program seemed to come together to make the experience for all fulfilling and worthwhile. There wasn’t a single youth among the two cohorts who stated that they didn’t enjoy the program or that they wouldn’t return. In
fact, the majority of the youth classified the program as being not only educational, but surprisingly entertaining.

“I completed the program cause it was actually pretty fun. I thought it was going to be more boring than interesting, but I was surprised.”

“The program helps and it’s fun. You can get better at things that you are not good at and you can practice.”

The Struggling Readers reported meeting several of their program goals and experiencing additional positive outcomes. Responses from the participants indicated that the program helped them to increase their knowledge and skills in reading and writing.

“I just use the skills every time I see something…it kicks in my brain.”

“...I’m more positive. I can speak with confidence, cause I know what I’m saying... In terms of my reading, I’m at my best. Yeah, I’d say I’m at my best. Now, I’m actually reading and surprising myself...”

“The skills of sounding out in reading and using punctuation in writing have made the most difference to me.”

“It’s good to know that I’m learning stuff and succeeding and being better at things I was never really good at like learning, really reading and writing.”

Socially, the participants felt that they had made positive interpersonal connections. For many, the possibility of making friends and having a community was equally as important as learning itself.

“Every Friday, the big lunch together. That made me feel good.”

“I also stuck around because of the people…it doesn’t feel like school, it feels like you’re chilling with friends.”

“The friends that I have made and the teachers and the fun I was having made me complete the program.”

“I made new friends and the staff helped me out. They are on your side trying to help you as much as possible...they helped me out in so many different ways.”
Additionally, the program provided the Struggling Readers with a forum for exploring their emotions and for learning how to deal with maladaptive reactions.

“I learned how to take space when I’m frustrated.”

“I learned to think about people, not to judge people.”

“I feel more mature, like in awareness. Like if I have trouble with anything, I know to speak out about it and be open and ask for help.”

“I learned that it is more about being a person that can pick themself up [when faced with struggles].”

As well, several of the Struggling Readers indicated that the program specifically helped them face their fears of ridicule and allowed them to alter their negative perceptions of how others might view them:

“...mostly my reading, I was like I don’t wanna. I didn’t feel comfortable; like that I was going to be the one person that everyone was going to be waiting on. ‘Oh yeah, is she stupid? Or is she just stupid? It’s a simple word there.’ I thought they would be judging me...I thought I would just be sitting at the corner being like that and not doing anything. So, I think I have learned more about being open and taking chances and not being afraid, cause I’m a real, real ‘scaredy cat’.”

“I learned not to worry so much about what other people think about me because they are in the same spot.”

“My confidence level has gotten a lot higher, much higher.”

For some participants, their financial need was critical and the program was able to make a contribution towards this need. For most, the financial motivation was not the sole reason for participant involvement. It was noted by several participants that they would have still participated in the program without remuneration. For these participants, compensation for taking part in the program was a helpful extra.

Responses from the Struggling Readers during the post interviews also indicated that their personal goals were met and meaningful life changes occurred.

“I’ve become more mature in the sense that I do not allow my past to hold me back anymore. I’ve changed a lot.”
“I haven’t done anything bad, which surprises me. Yeah, I was working. Yeah, I actually learned something.”

“I went to the program and completed it. For the first time I completed something.”

“I thought I would have walked out on this program a long time ago…I’m not even here for the money. I’m here just to learn, for myself.”

C) Broader Perspectives. Following the intervention program, brief telephone interviews (See Appendix L) were conducted with a number of the youths’ case workers from the 2009 cohort (n = 7) to glean insights from key others as to how they perceived the program to have impacted (if at all) the lives of the youth participants. There was solid agreement among the workers that the program was indeed beneficial and contributed to a noticeable difference in the attitudes and self-image of these youth. All of the sampled workers identified transformational social-emotional changes as being paramount to the youths’ participation.

“At first, T.B. had mixed feelings about attending – she really was on the fence and it took some gentle encouragement to convince her to attend. But now, wow! She loved the program, was happy and liked going. She told me that she loved meeting the other kids and staff and that going back to school, she’s much happier. She acknowledged the independence piece too – getting to the program on her own, taking the TTC. I feel that the program has had a huge impact on her mood and self-esteem. She’s feeling good about herself and was motivated to attend. She actually missed other opportunities to attend. She thrived in the program emotionally, educationally. I feel she has really matured and bloomed over the summer.”

Workers who lived with the youth in group homes additionally commented on how they saw the use of acquired reading and writing skills being put into practice in the home. Many also commented on the youths’ excitement for sharing this new knowledge and a longing for ‘spreading the wealth’. For many, their enthusiasm further translated to an eagerness to return to school. Positive increases in confidence were seen as critical to these alterations and as life-changing for most.
“It’s been really positive. She’s been doing so well with the reading and writing, it’s really boosted her confidence. Her reading and writing at home has improved. In the middle of our residence meeting, for example, she’s offered to take the minutes – this has always been a staff job. I’ve been working with her for 10 years and I’ve never seen initiative from her like that. She’s definitely more confident since starting the program.”

“Both of the boys were disappointed to see the program end. They like the group atmosphere – the staff and the youth – they made a good connection and felt like they weren’t ‘done’. They were noticing change and so have we. A.K. is reading so much more and wants to tell us about it. He’s verbalizing about his reading and teaching the strategies to staff. I’ve noticed that when he’s having trouble with a word, he’s now sounding it out, breaking the word apart, he’s not just guessing like before. He’s reading with much more confidence. And, M.M., he’s actually walking and reading at the same time, watching TV and reading at the same time. He’s excited about it – empowered.”

In addition to recognized skill and social-emotional growth, the majority of sampled case workers made further mention of how the program contributed to development of the youths’ adaptive functioning, independence and social skills.

“It was a proud moment for all of us – the life skills he gained just traveling to and from the program on his own – it was a huge boost to his self-esteem.”

“He looks different, his appearance. He used to be untidy, unclean. Now he’s dressed well. His hairstyle, clean clothes and spirit – there’s been a positive change.”

“He went to the library for the first time this summer. He was so excited to have skills and to read a book.”

“He’s still in touch with the other kids. This is huge for him. He has no family here and finds it tough to make friends. He’s been really happy.”

At the end of the interviews, many of the workers expressed their desire for continued programming, “wish it could be every summer – they came home happy and wanting to return.” There was no doubt that the responses were complimentary, indicative of progression, and suggestive of the start of something positive for these youth.
Real change was indeed made. It was evident in their skills, perceptions, feelings, actions and interactions. It was also present in the outlooks and aspirations of the youth who originally described their futures as being very bleak. After having participated in the reading intervention, the maltreated youth described visions of a future that were much more optimistic and hopeful. Quoted in the pre interview as stating that it was unlikely that he would graduate from high school, one of the Struggling Readers described with conviction, post intervention, that he would not only finish his schooling but had higher aspirations for a vocational career:

“I need to get 16 credits, so that I can go for my apprenticeships. Yeah, I’ll make it happen.”

Similarly, a Struggling Reader who initially described seeing her future as living in the streets and begging for money described a new future full of purpose and hope.

“In 5 years, oh my god, that’s going to be when I’m 21. I’m going to be out of CAS (Children’s Aid Society)...I’m going to have my school things completed and my career...I want to be working at one of those food places like MacDonald’s, Tim Horton’s. It’s not bad, but I don’t know. I’ll be doing mostly what I’m doing right now – making up for everything that I haven’t done and make up for like things that I didn’t really take the time to do, like school. I’ll do my best to get all my credits to graduate.”

Discussion of Category 4 Findings & Themes – Program Perceptions. It was apparent at the outset of the intervention that the Struggling Readers had varied motivations for attending the intervention and numerous expectations that they hoped would be achieved. Some of their goals reflected immediate skill-related outcomes, while others were associated with long-standing ambitions for personal growth, higher education and stable careers. At the end of the program, it was generally felt that the youth made the skill gains that they were seeking and that hope remained for enduring ambitions. Interestingly, additional outcomes were also identified, suggesting that the participants made further personal gains beyond
those explored in previous categories. Growth was highlighted in interpersonal realms, social-emotional well-being, and adaptive functioning. These achievements were duly noted by many of the youths’ case workers, translating from class to real-world situations. The youth also became more attuned to their own learning preferences, highlighting learning formats and styles that appeared to work well for them. Particularly, program components felt to be useful and that enhanced participants’ learning and enjoyment were revealed. Findings from this category alluded to all identified themes; namely specific skill development, social-emotional and metacognitive outcomes, internal motivation, and personal aspiration and hope for the future.

As the participants discussed their expectations of the program, their anticipation for skill development, social and financial gains and future successes became evident. The participants were generally realistic in their expectations, as many of their anticipations were appropriate and attainable. The Struggling Readers longed for skill development, a central theme spanning much of the discourse in the pre and post interviews. As indicated from previous categories, the participants recognized the importance and value of literacy – acknowledging that having these skills could provide them with opportunities that would otherwise be inaccessible.

The Struggling Readers also longed for increased social opportunities where they could meet and interact with new people and “possibly make a friend”. As interpersonal attachment is a fundamental human motivation (Baumeister & Leary, 1995), it was not unreasonable that the need for positive social interaction was equally a motivating factor for participating as that of skill development. Maltreated youth are often deprived of and/or have difficulty maintaining positive intimate relationships (Asher & Coie, 1990; Baumeister & Leary, 1995; Bretherton, 1987; Chisholm, 1999). Their past histories with abuse have led
many of them to be impatient, angry, guarded, defensive and ultimately distrusting of others. Many of them feel lonely and truly are alone in this world. Further compounding their abusive histories are difficulties with reading and writing. Research on the social-emotional outcomes related to children with learning disabilities suggests that they are less likely to be socially accepted among their peers and have reciprocal friendships (Cassidy & Asher, 1992; Crabtree & Rutland 2001; Pearl, Donahue, & Bryan, 1986; Selman, Beardslee, Hickey Schultz, Krupa & Podorefsky, 1986; Selman & Demorest, 1984; Wiener & Schneider, 2002). Given that social reciprocity was not a focus of the program, it was unexpected that participants would gain such an apparently strong sense of interpersonal connectedness. It is possible that the context of the intervention provided the participants with a forum to practice their social skills in a safe, well-mediated and positive environment where they were able to develop healthy interpersonal relationships. The youth became attached to the people that they met and felt more confident in their communications with others. The combination of these contextual factors may have encouraged participants to gain basic literacy skills while fostering positive ‘intra’ and ‘inter’ personal growth.

Payment was also a motivating factor and expectancy of the program for many of the participants. Despite the fact that payment is traditionally viewed as being an extrinsic, and possibly detrimental motivating factor, for this particular group of participants, poverty is a real and fundamental concern. As of age 18, youth-in-care in Ontario become ‘independent’ of the system and are no longer under the care of Children’s Aid Societies. With some guidance, they are left on their own to meet such basic needs as housing, food, clothing, etc. Many have not had the opportunity to develop skills necessary to maintain employment, and do not have the security of family on which to rely. For these youth, money becomes a constant issue in their day-to-day functioning. It was understandable then that some youth
claimed that they needed the payment to attend the program but even more awe-inspiring when many indicated that it was secondary or an added benefit to the possibility of attaining positive educational outcomes.

The participants also anticipated that the program would help them achieve some of their larger goals of obtaining particular future occupations, participating in higher education and meeting more immediate personal objectives. For the Struggling Readers, the program became a source of hope and possibility. The sheer act of being able to follow through and successfully complete the program renewed the Struggling Readers’ belief and sense of value in themselves which fostered an empowerment in these individuals that is rarely seen in maltreated youth (Martin et al., 2004) or youth with reading difficulties for that matter (Lackaye, Margalit, Ziv & Ziman, 2006). Thus, this program may be the experience that turns the tide in their ‘cascade’ of failures (Stanovich, 1986), and may begin the process of instilling a sense of empowerment and control in the lives of these individuals.

The results from the post interviews revealed that the maltreated youth indeed felt that the literacy intervention was highly beneficial. Many of the Struggling Readers praised the program, and many reported that they would willingly suggest the program to peers experiencing reading and writing difficulties. It was a common opinion that the literacy initiative differed from other educational programs that they had been part of in the past. Differences were attributed to the intensity of the program, the commitment of the staff to the students’ needs, the safe, open and encouraging environment in which they learned, and both the process and product-oriented focus of the intervention. Comments also reflected an enjoyment and interest in the learning activities employed and in the contemporary resources available. Overall, students reported gains across multiple developmental areas, and consistently commented on having acquired concrete strategies to walk away with at the end
of the program. It seems that the success of the program can be attributed to not only the strength of the literacy intervention but also to the structure of the environment in which the program was delivered.

Following intervention, the Struggling Readers perceived themselves to have made significant literacy gains, felt that they had achieved real learning, and saw practical and positive changes in their day-to-day functioning (e.g., able to complete an application, read transit signs). Some indicated that as a result of this program they were able to face their fears, alter their judgements of themselves and others, regulate their emotions, and be more constructive when faced with challenging situations. They also revealed a sense of accomplishment, pride, and surprise in their achievements, and a renewed sense of hope for the future. The inference here is that participation in the program fostered productive perceptions of future selves, which has the potential to significantly influence the direction of life courses. As well, of promise was how positive change, now and projective, was apparent not only to the youth themselves, but to those closest to them.

It is possible that if maltreated youth can be encouraged to participate in programs such as the literacy intervention for the purpose of gaining practical skills, these youth may also benefit from the secondary, but developmentally profound social-emotional, cognitive, and intrapersonal outcomes. Programs such as this one may have the potential to shift the life trajectory of these vulnerable youth by providing them with the opportunity to become more independent, knowledgeable, sociable and self-sustaining individuals, and ultimately, to see their future selves as characterized by these hopeful traits.

The qualitative findings presented in this section supported those revealed in the quantitative portion of this thesis in that participating in a remedial literacy intervention did indeed have a positive impact on the achievement skills and self-perceptions of maltreated
youth with reading difficulties. These findings also expanded those obtained from the quantitative work by exposing the thoughts and feelings of youth-in-care regarding their reading and writing and related experiences. A general discussion of the implications, limitations and future directions for this work has been presented in the final Chapter entitled Conclusions and Implications.
Conclusion & Implications

The primary objective of this thesis was to examine the effects of a literacy intervention on the reading and writing skills and related self-perceptions of struggling adolescent and adult readers from the child welfare system. This final chapter will begin by discussing the major contributions of the study as they relate to the original research goals and will review the major findings of the thesis as a result of the integration of both the quantitative and qualitative methods. It will also present the limitations of the study, insights into possible directions for future research and a discussion of final thoughts on the study as a whole.

Contributions of the Current Research

This exploratory mixed-methods study was conducted to expand the research on literacy achievement and related self-perceptions of maltreated youth from the Canadian Child Welfare System. The major contribution of this study was that it revealed that improving changeable skills, such as reading and writing, through remedial intervention indeed has positive implications for skill and social-emotional development for this group of at-risk, underserved youth.

An additional strength of this study was its originality in investigating maltreated adolescents and young adults from the Ontario Child Welfare System. Most of the previous research on educational achievement and associated self-systems has concentrated on children from low socioeconomic backgrounds (Evans, Shaw & Bell, 2000; Goldenberg, Gallimore & Reese, 2005) and children with learning disabilities (Chapman & Tunmer, 2002), but has neglected to extend this area of investigation to include vulnerable
populations, such as older Struggling Readers and writers, or youth with histories of abuse (Kinard, 2001).

This study also provided insights into the kinds of assessment strategies, both standardized and dynamic, that can be used to screen youth for potential difficulties and to examine responses to treatment. Having better awareness of the kinds of tools that can be useful and that are appropriate for use with this population will be particularly helpful for further studies and clinical practice.

As well, the current results have implications for adding to the literature on effective treatments and interventions for older Struggling Readers and writers, and more specifically for youth who have adverse histories. In an area that is relatively understudied, the findings of this thesis uniquely revealed possible intervention models suited to enhance social, behavioural, emotional and academic well-being, such as the phonologically-based remedial reading program and self-regulated strategy development based writing program used in this study. Results also pointed to the learning format and teaching styles appreciated by the youth, particularly the opportunity to learn in small groups, with like-minded peers, in a structured and supportive environment.

Further, an additional contribution of this study was its employment of a mixed-methods approach to investigating the breadth and depth of the literacy profiles of youth-in-care and the impact of a literacy intervention on these youth. Reading and writing skills and linked self-evaluations were measured and conceptualized as quantifiable constructs, so that questions about the statistical significance of gains following remediation could be explored (Chapman & Tunmer, 2003). Concurrently, qualitative data was collected on the participants’ perspectives on reading, writing, literacy achievement, intervention initiatives, and greater life outcomes. Together, these results converged to reveal a complex yet
comprehensive understanding of the literacy profiles of youth-in-care and how personal trajectories are influenced and changed by the youths’ literacy experiences.

**Integration of Mixed Methods: Overview of the Major Findings**

Integrated analysis of both the quantitative and qualitative data pointed to beneficial effects of direct and strategy-based instruction on the reading and writing skills and social-emotional well-being of maltreated Struggling Readers, despite their negative self-evaluations, severe literacy deficits, older age, and daily hardships.

Results from the quantitative investigations shed much needed light on the literacy profiles of both Struggling and Good Readers from the maltreated population. Results indicated that Struggling Readers have less developed literacy skills than their Good Reader counterparts, though Good Readers from this population also performed below the average on several measures related to reading. When given the opportunity to learn, the Struggling Readers demonstrated significant improvements in decoding, phonological awareness, and reading fluency skills. Significant gains were also made in their spelling and writing accuracy and production. Further, positive growth trends were noticed on several other key skills related to writing, such as the use of advanced vocabulary and text composition and construction skills. It is likely that these achievement gains can be linked to the significant personal advances made in the Struggling Readers’ overall reading and writing self-perceptions post intervention. Though many of these improvements remained significantly lower following the program than the superior skills and views of the Good Readers, results reflected success nonetheless and a progressive move forward in all investigated areas. In fact, advances in literacy achievement and self-evaluation were generally maintained 3
months following the intervention. Where there was some skill loss, achievement at follow up was still on average significantly better than the skills the Struggling Readers displayed prior to intervention.

Qualitative analyses enabled the exploration of the Struggling Readers’ experiences and perceptions and exposed the general consensus that substantial gains in literacy skills and positive alterations of evaluative self-statements were indeed made. Qualitative findings provided a depth of understanding that could not be derived from statistical analyses alone. Youth responses revealed shifts in the participants’ preferences for reading materials and writing purposes, exposed the development of an understanding of the importance of literacy, and fostered an awareness of what improved literacy skills could provide for them. Qualitative data also provided insights into specific skills that the youth acquired, and of additional unanticipated benefits of the program, such as reported improvement in communication skills, increased optimism, confidence, autonomy, internal motivation, metacognitive gains, and amplified feelings of empowerment and hope for the future.

The youths’ responses also revealed important information about the learning environment, program structure, and program content. From their reflections, it became evident that the youth appreciated learning with other youth of similar ages, skill levels, and histories. There appeared to be a consistent feeling of comfort and motivation among the youth stemming from the realization that they are not unique or alone in their journeys. Activities of high interest, and access to resources and supports, additionally appeared to be invaluable to the participants’ learning experiences.

The understanding that this program had direct impact on reading, writing, and ensuing self-concepts, along with the extent to which these outcomes influenced and touched the lives of the maltreated Struggling Readers, could have only been derived through the
integration of both the quantitative and qualitative data. Independent analysis of either data strand alone would not have revealed these results. Thus, as learned from the employment of mixed-methodology, the findings from this research project point to several realized achievements for this group and suggest potential avenues for continued success and development.

One of the seminal works on the process of reading acquisition is that of Stanovich (1986) in which he documented the Matthew Effects of reading. A Matthew Effect is the phenomenon observed in which the very act of struggling seems to compound the difficulties experienced by struggling readers, while successful readers appear to experience compounded subsequent positive gains; that is “the rich get richer”, while the “poor get poorer”. Stanovich has also noted that readers who struggle often experience a ‘cascade of failures’, and that these failures inevitably cascade into, and negatively impact, the reader’s self-concept. Given an understanding of the life histories of the program participants, this intervention may be the first experience for many of the maltreated youth in which the burden of this cascade of failures was, even if temporarily, lifted. Further, it is possible that this program may be the beginning of a change in fortune for the program participants, as they have acquired some basic literacy skills and strategies in a social context that supported interpersonal growth. As a result of this opportunity, they have gained experiences of competence, relatedness and autonomy – experiences that are empirically related to well-being and self-determination (Ryan & Deci, 2000). Given the overall positive increases in skill, socio-emotional, interpersonal, and cognitive development of the participants, one hopes that this program may help overturn Mathew Effects in the lives of these individuals.
Limitations & Future Directions

While the findings from this study have contributed toward a better understanding of the effects of a literacy intervention on youth-in-care Struggling Readers, there are several limitations to this study that should be addressed.

One of the limitations to this study was the small sample size on which to perform the statistical analyses. Considering the instability of the living circumstances of the population at hand, it was difficult to secure a larger sample (see Sampling Strategy and Participant Attrition). Having a small sample in some cases limited the ability to conduct certain analyses and in addition reduced the statistical power of the tests performed. It is worth noting, however, that the sample size may have facilitated the overall success and outcomes of the program. The population size ensured participant engagement and learning, and enabled program facilitators to attend individually to students – a support that was consistently identified as being beneficial in participant interviews. It may be this level of care and attention that was critical to creating an optimal learning environment. Further, the statistical findings of personal gains made in both skill and self-evaluations were significant and consistent despite variation among the population.

Additionally, to increase confidence in the sample size, the present study adopted a mixed-method, convergent-triangulation design, whereby the statistical results could be set against qualitative results for comparison. Future research might benefit from a larger sample, which would allow for further analyses and understanding of change-processes among those Struggling Readers who experienced more gains than others.

A second limitation to this study was the challenges inherent in disentangling the confounding effects of specific maltreatment associated variables and individual differences on outcome. Conducting applied research in real-life settings reduces the possibility of
controlling for certain confounding factors such as type of abuse, length of abuse, personal disabilities. Thus, the internal validity of the current study may have been compromised by the lack of control over various confounding variables.

A third limitation had to do with the need for remedial programming itself. Due to the pervasive literacy needs of the youth-in-care, and their persuasive arguments for continued programming, some youth received additional literacy support post program during the 3 month follow-up period. The decision to accommodate participants’ needs and wishes for extra programming confounded the researcher’s ability to determine whether gains maintained at follow-up were due to the ‘booster’ sessions or summer program itself. Future research would benefit from conducting component analyses to determine key aspects of programming that influenced change.

Likewise, there would be value in assessing if an altered instructional environment would impact outcomes. Particularly, future research would benefit from exploring condition changes such as varying the length of the intervention, group size, facilitator-student ratio, and group make-up (e.g., interspersed maltreated and non-maltreated Struggling Readers) on self-perception and achievement outcomes. From a proactive clinical perspective, it would also be beneficial to conduct similar studies with younger maltreated populations, and to explore how key components of such an intervention can be translated into the home environment.

Fundamentally, future research is needed to replicate the results of this exploratory study and to monitor the longitudinal impact of literacy intervention on the lives of maltreated youth. Such replication will not be easy because the intervention was a complex one with various inter-dependent components. The instructional core of the intervention consisted of evidence-based reading (Phonological and Strategy Training [PHAST] Program
by Lovett, Lacerenza and Borden, 2000) and writing programs (POWER writing by Graham & Harris, 2006). However, these programs were supplemented with a number of components some of which focussed on additional skills (e.g., spelling and typing) and others of which appear to have played an important motivational role (as became clearly apparent in the qualitative interviews) for the participants (e.g., games, texting and computer use). In addition, the staff of the program, a team of clinically sensitive, highly motivated graduate student volunteers created an environment that provided both educational support and social-emotional safety for this vulnerable population. Disentangling the specific contributions of each of the factors contributing to the very encouraging results found in this study will require several large and carefully controlled studies. Research into these areas would clearly be of value for determining interventions best suited to this specialized population and for determining its impact on long-standing social, behavioural, emotional and academic well-being.

Final Thoughts

“Overhaul Urged For Youth In Care”
Toronto Star, May 14, 2012

When this study was first undertaken, ‘youth-in-care’ was a relatively unknown term to most and was used to represent a group who were, and unfortunately still are, widely disregarded and gravely misunderstood. As the principle investigator of this study, I was overcome with emotion as I wrote this final section. The conclusion of this project has corresponded in a timely way with a headlining article in one of Canada’s leading newspapers, and the presentation of a landmark report written and prepared for the Ontario
government by youth-in-care themselves. The report addresses the most basic yet overlooked needs of our forgotten children. As Laurie Monsebraaten, Social Justice Reporter for the Toronto Star, states:

“The goal is to make Ontario a better parent to roughly 8,300 children and youth in care and make their transition to adulthood more secure” (May 14, 2012, p. A1).

We can make this happen! One of the lasting findings from this study came from the stories told by the youth through the qualitative portion of this research. What quickly became apparent from the youths’ dialogues was their commitment to learning, their drive to better themselves, their generally good spirits, and their appreciation for the opportunity to learn, in spite of past adversities and current hardships. This study revealed that even at this later stage in their lives, the maltreated youth with reading difficulties developed a renewed faith in themselves and in their actions and were willing to put forth the necessary effort when given a chance to succeed. The sentiments of one particular Struggling Reader were particularly compelling:

“Youth-in-care need a better place to learn at their own level where they feel better about themselves. Because youth-in-care don’t always have their mother or father, we need education to take us where we need to get in life. Youth-in-care have a way of not feeling wanted in the world and if you don’t have education, you can’t get anywhere. You find yourself not believing in you.” (17 year old female Struggling Reader, 2009)

Our efforts need to bring meaning to the label ‘in-care’ by showing these well-deserving adolescents that indeed we do care. It is critical that provisions be made to afford maltreated youth with the opportunities to reach their potential and to make gains in areas in which they struggle. Literacy intervention has demonstrated to be a valuable and powerful
change agent, aiding in the development of positive self-perceptions, essential literacy skills, and hopeful potentials, for this disadvantaged group of youth
References


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National Reading Panel (2000). Teaching Children to Read: An Evidence Based Assessment of the Scientific Research Literature on Reading and its Implications for Reading Instruction: Reports of the Subgroups. Bethesda, MD: National Institute of Child Health and Development.


### Appendix A

#### Categories of Child Maltreatment:
The Canadian Incidence Study of Reported Child Abuse & Neglect

<table>
<thead>
<tr>
<th>Definition</th>
<th>Subtypes / Forms of Abuse</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Physical Abuse</strong></td>
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</tr>
<tr>
<td>♦ Deliberate application of force to any part of a child’s body, which results or may result in a non-accidental injury</td>
<td></td>
</tr>
<tr>
<td>♦ Includes: shaking, choking, biting, kicking, burning, poisoning, dangerous use of force or restraint (e.g., holding a child under water)</td>
<td>1. Inappropriate Punishment</td>
</tr>
<tr>
<td></td>
<td>2. Other Forms of Physical Abuse (e.g., intentionally burning, hitting a child in a manner that is not intended as punishment)</td>
</tr>
<tr>
<td></td>
<td>3. Shaken Baby Syndrome</td>
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<tr>
<td><strong>Sexual Abuse</strong></td>
<td></td>
</tr>
<tr>
<td>♦ Occurs when an adult or youth uses a child for sexual purposes</td>
<td></td>
</tr>
<tr>
<td>♦ Includes: fondling, intercourse, incest, sodomy, exhibitionism, commercial exploitation (e.g., prostitution, production of pornographic materials)</td>
<td>1. Touching and Fondling of Child’s Genitals</td>
</tr>
<tr>
<td></td>
<td>2. Attempted Sexual Activity</td>
</tr>
<tr>
<td></td>
<td>3. Completed Sexual Activity</td>
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<tr>
<td></td>
<td>4. Adult Exposure of Genitals to Child</td>
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<td></td>
<td>5. Sexual Exploitation</td>
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<tr>
<td></td>
<td>6. Sexual Harassment</td>
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<tr>
<td></td>
<td>7. Voyeurism</td>
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<tr>
<td><strong>Neglect</strong></td>
<td></td>
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<tr>
<td>♦ Occurs when parents/caregivers do not provide the necessary attention to their child’s emotional, psychological, or physical development</td>
<td></td>
</tr>
<tr>
<td>♦ Often involves chronic situations that are not as easily identified</td>
<td>1. Failure to Supervise Leading to Physical Harm</td>
</tr>
<tr>
<td></td>
<td>2. Physical Neglect</td>
</tr>
<tr>
<td></td>
<td>3. Permitting Criminal Behaviour</td>
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<tr>
<td></td>
<td>4. Abandonment</td>
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<tr>
<td></td>
<td>5. Educational Neglect</td>
</tr>
<tr>
<td></td>
<td>6. Medical Neglect</td>
</tr>
<tr>
<td></td>
<td>7. Failure to Provide Necessary Treatment</td>
</tr>
<tr>
<td></td>
<td>8. Failure to Supervise Leading to Sexual Harm</td>
</tr>
<tr>
<td><strong>Emotional Maltreatment</strong></td>
<td></td>
</tr>
<tr>
<td>♦ Involves acts or omissions by parents/caregivers that cause or may cause severe behavioural, cognitive, emotional or mental disorders</td>
<td></td>
</tr>
<tr>
<td>♦ Includes: verbal threats, social isolation, intimidation, exploitation, terrorizing, regularly making unreasonable demands on a child</td>
<td>1. Terrorizing or Threat of Violence</td>
</tr>
<tr>
<td></td>
<td>2. Emotional Abuse</td>
</tr>
<tr>
<td></td>
<td>3. Emotional Neglect</td>
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<tr>
<td></td>
<td>4. Non-Organic Failure to Thrive</td>
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<tr>
<td></td>
<td>5. Isolation/Confinement</td>
</tr>
<tr>
<td></td>
<td>6. Exploiting or Corrupting Behaviour</td>
</tr>
<tr>
<td><strong>Exposure to Intimate Partner Violence</strong></td>
<td></td>
</tr>
<tr>
<td>♦ Occurs when children see, hear or experience the results of the violence</td>
<td></td>
</tr>
<tr>
<td>♦ Exposure may include auditory, visual, or inferred exposure to a pattern of assaultive and/or coercive behaviours, including physical, sexual, and emotional abuse, as well as economic coercion, that adults use against their intimate partners to gain power and control in that relationship</td>
<td>1. Direct witness to physical violence</td>
</tr>
<tr>
<td></td>
<td>2. Indirect exposure to physical violence</td>
</tr>
<tr>
<td></td>
<td>3. Exposure to emotional violence</td>
</tr>
<tr>
<td></td>
<td>4. Exposure to non-partner physical violence</td>
</tr>
</tbody>
</table>

Appendix B

Reading Intervention Program

Maltreated adolescents and young adults struggling reading participants will participate a combined reading and writing intervention program. The reading program will be based on Phonological and Strategy Training (PHAST) program developed by Lovett, Lacerenza, and Borden (2000). The writing component will be based on the Four Square Writing Method and Graham and Harris’ Self-Regulated Strategy Development approach to writing development. Below, a brief summary of the two components is provided.

PHAST
The Phonological and Strategy Training Program (PHAST) was designed by teachers and researchers in the Learning Disabilities Research Program at the Hospital for Sick Children. This program has proved to be an effective remedial reading program for struggling child and adolescent readers in research classrooms in Canada and the United States. Lessons focus on directly teaching phonological awareness skills, letter-sound correspondences, and how to blend letter-sounds together to read new words. Strategy instruction, whereby participants learn to use what they already know about words to help them figure out words they do not know, is also an integral component in the program. Scaffolded instruction in the use of five word identification strategies (i.e., Sounding Out, Rhyming, Peeling Off, Vowel Alert and Spy) is employed. For example, if a participant can read the words am and zoo, then they can use these words to help them figure out the new word shampoo. By the end of the program, participants should be able to decide which of the strategies would be best for a particular word.

For further details, please refer to:
Sounding Out: say the sounds the letters make and then blend them together!

Example:

```
c  a  t
```

1. **Rhyming**: find the *spelling pattern* in a chunk of the word, then find the *keyword* and then you rhyme to figure out the word. “If I know _____, then I know _____."

   *spelling pattern*: the vowel and what comes after it; words with the same spelling pattern usually rhyme. Example: man

   *keywords*: special words that unlock the door to new words. Example: cat, see, man

   *rhyming*: if words sound the same at the middle and the end, then they rhyme. Example: cat: mat, sat, fat, bat, rat

Example: It was handmade.

   *handmade*: if I know and, I know hand; if I know made, I know made = handmade

2. **Peeling Off**: first you peel off the affixes, then you use another strategy to read the root word!

Example: unwilling. First I peel off un from the beginning and ing from the end, the root word is will, the whole word is unwilling.
4. **Vowel Alert**: when you see a vowel, you **STOP**, **TRY BOTH SOUNDS**, and then **GO** when you know the word!

<table>
<thead>
<tr>
<th>Short Sound</th>
<th>Vowel</th>
<th>Long Sound</th>
</tr>
</thead>
<tbody>
<tr>
<td>at</td>
<td>a</td>
<td>ate</td>
</tr>
<tr>
<td>edge</td>
<td>e</td>
<td>evil</td>
</tr>
<tr>
<td>in</td>
<td>i</td>
<td>ice</td>
</tr>
<tr>
<td>on</td>
<td>o</td>
<td>open</td>
</tr>
<tr>
<td>up</td>
<td>u</td>
<td>use</td>
</tr>
<tr>
<td>gym</td>
<td>y</td>
<td>cry, baby</td>
</tr>
</tbody>
</table>

1. **I Spy**: spy the little words we know hiding in the big words, then say the whole word fast!
   Example: **rainbow** I SPY rain, the whole word is rainbow.

**Game Plan**

1. **CHOOSE**: I see ____. I will try ____ to figure out this word.
2. **USE**: Sounding Out, Rhyming, Peeling Off, Vowel Alert, or I Spy.
3. **CHECK**: Is it working? Can I read the word?
4. **SCORE**: Yes! It worked! // No, RECHOOSE: I need to try again.

**How do I know which strategy to use?**

- Is the word short or unfamiliar? **TRY**: Sounding Out
- Are there beginnings or endings? **TRY**: Peeling Off
- Are there double-trouble twins? **TRY**: Vowel Alert
- Do you recognize a spelling pattern? **TRY**: Rhyming
- Do you see a small word that you know? **TRY**: I SPY
Appendix C

Writing Intervention Program

**Self-Regulated Strategy Development (SRSD)**
Self-Regulated Strategy Development involves six basic stages of writing instruction: 1. developing and activating background knowledge, 2. discussing the strategy - benefits and expectations, 3. cognitive modeling of the strategy, 4. memorization of the strategy, 5. collaborative support of the strategy, and 6. independent performance. Four basic strategies for self-regulation - goal setting, self-instructions, self-monitoring, and self-reinforcement - are developed along with the writing strategies. SRSD is well researched and has been shown to make significant and meaningful improvements in the written work of students who struggle with writing. Gains have been reported in students’ quality of writing, knowledge of writing, approach to writing and self-efficacy.

For further details, please refer to:

**Spelling through Morphographs**
The *Spelling through Morphographs*® program is centred around 500 commonly occurring morphographs (morphographs are the smallest units of meaning in a word, the word *construction* has three morphographs - *con, struct* and *tion*). In this program, the participants are taught the meaning of morphographs, how to spell them, and rules for combining morphographs to spell multisyllabic words. Approximately 20 morphographs and 5 spelling rules were taught in this program during the summer.

For further details, please refer to:

**Four Square Writing**
The Four Square Writing Method is a commercially available writing program that teaches writing through the use of a graphic organizer. It is a method of teaching basic pre-writing and organizational skills. The visual organizer helps students to conceptualize, understand and structure a piece of written discourse successfully. It helps to focus writing, provide detail and enhance word choice. For further details, please refer to the Teaching and Learning Company: [http://www.teachinglearning.com](http://www.teachinglearning.com)
POWER: PLAN

Audience: Who are you writing for?
Reason for Writing: Why are you writing?
Topic: What am I writing about and do I know enough about my topic?

POWER: ORGANIZE

Organize your thoughts using an idea web or making a list:

1. 
2. 
3. 

Are your ideas clear? [ ] √
Are your ideas connected? [ ] √
Are your ideas organized? [ ] √

POWER: WRITE

Go ahead and write it down!!!!!!

POWER: EDIT

Use your editing skills to check for errors with:

{ } √ Capitalization
{ } √ Overall – How is the overall flow of the writing? Is it connected and does it make sense?
{ } √ Punctuation
{ } √ Spelling – Consult your personal word list and a dictionary

POWER: REVISE

{ } √ Now make those changes. Correct spelling, grammar and punctuation errors. Read through once again and make any necessary changes.

{ } √ DID YOU USE THE WHOLE POWER STRATEGY?
PUNCTUATION POWER

Capitalization – Always capitalize:
- The first word of a sentence (Once upon a time in a far off place.)
- The specific name of a person or place (Joseph loved Spanish food.)
- The first line of every line of poetry
- The first word of a quotation ("It's time for lunch," said Mary.)
- The first, last and all important words in the titles of books, poems, songs, and stories
- Abbreviations and a person’s title (Rd.; Dr. Wilson)

Punctuation Marks:
- Use a period to finish a sentence that tells about something (Theresa's aunt lives in Toronto.)
- Use a question mark to finish a sentence that asks a question (Will you carry this package?)
- Use an exclamation mark after an exclamation and to finish a sentence that shows a lot of feeling (Wow! You did such a great job!)
- Use a comma between words or groups of words in a series (I like apples, oranges and limes.)
- Use a comma to separate two ideas in a sentence (Adam picked corn, and Lisa milked a cow.)
- Use a comma to set off a quotation from the rest of a sentence (Mom said, "We must get up early.")
- Use quotation marks to show the exact words of a speaker ("Quick, catch that train!")

SPELLING THROUGH MORPHOGRAPHS

<table>
<thead>
<tr>
<th>Beginning Morphographs</th>
<th>Spelling Rules</th>
<th>Ending Morphographs</th>
</tr>
</thead>
<tbody>
<tr>
<td>pre - before</td>
<td>Final E: When a word ends in an e and you add a morphograph that begins with a vowel letter, you must drop the e (note + able = notable)</td>
<td>ful - full of</td>
</tr>
<tr>
<td>mis - wrong</td>
<td>Doubling Rule: When a short word ends CVC (consonant, vowel, consonant) and the next morphograph begins with a vowel letter, you must double the consonant (swim + ing = swimming)</td>
<td>ly - how something is</td>
</tr>
<tr>
<td>re - again</td>
<td>Y-to-I Rule: When the word ends with a consonant and the letter y, and you add a morphograph that begins with anything except i, you must change the y to i. (lazy + ness = laziness)</td>
<td>er - more, one who</td>
</tr>
<tr>
<td>dc - down, away from</td>
<td></td>
<td>ness - that which is</td>
</tr>
<tr>
<td>un - not</td>
<td></td>
<td>less - without</td>
</tr>
<tr>
<td>con - with</td>
<td></td>
<td>ed - in the past</td>
</tr>
</tbody>
</table>


Appendix D

Recruitment Flyer

Looking for Youth-In-Care

to Participate in Reading & Writing Research Study

This summer, PARC and researchers from the University of Toronto will be running a study with youth-in-care. The goal of the research is to learn about the literacy skills of youth-in-care and about their feelings on reading and writing.

Who can join?
Youth-in-care aged 16 and older who have difficulty with reading, as well as youth who don't.

Where will it be?
Right here at PARC.

What's Involved?
1) Attend a screening appointment in April to see if your reading and writing skills match what we are looking for in this study.

2) At this meeting, you will be asked to complete some reading and writing activities. We will also ask you to answer some questions on how you feel about reading and writing. This meeting will take about 1 ½ hours.

3) If there is a fit between you and the study, we will meet again in August to do some more reading and writing activities. This meeting will take about 2 hours and you will be paid $20 for your time.

We are doing this research so that we can better help youth-in-care now and in the future. Your participation will contribute to this important research!

If you are interested in participating or learning more, please contact Andrea Regina. Andrea is a graduate student at the University of Toronto and is doing this research as part of her degree.

You can call Andrea at (416) xxx-xxxx or leave your name in the drop box below and she will call you.
Looking for Youth-In-Care to Participate in a Summer Reading & Writing Program & Study

This summer, PARC and researchers from the University of Toronto will be running a summer program and study for youth-in-care who struggle with reading and writing.

**The goal of the program:** to help build reading and writing skills  
**The goal of the research:** to learn about youth-in-care’s literacy skills and feelings about reading and writing.

**Who can join?**  
Youth-in-care aged 16 and older who struggle with reading and writing.

**Where will it be?**  
Right here at PARC.

**What’s Involved?**
1) Attend a 1 ½ hour screening appointment in April to see if the program is right for you. You will be asked to complete some reading and writing activities and to answer some questions on how you feel about reading and writing.

2) If there is a fit between you and the program, we will meet again in June before it starts to do some more reading and writing activities.

3) Come to the program! It will start on Tuesday, July 7 and finish on Friday August 21, 2009. Classes run Tuesday to Friday, from 10 am until 3 pm each day. You will be paid $65 each week if you attend all classes.

4) Meet again after the program finishes in August and 3 months later in November to talk about the program and to do more reading and writing activities. You will be paid $20 for your time in November.

**If the program isn’t for you, you may still be able to participate in the research part of this study.**

We are doing this research so that we can better help youth-in-care now and in the future. Your participation will contribute to this important research!

If you are interested in participating or learning more, please contact Andrea Regina. Andrea is a graduate student at the University of Toronto and is doing this research as part of her degree. You can call Andrea at (416) xxx-xxxx or leave your name in the drop box below and she will call you.
Appendix E

Information Letters & Consent Forms

1. Screening Information Letter & Consent Form
2. Literacy Program (Intervention Group) Information Letter & Consent Form
3. Literacy Research Study (Comparison Group) Information Letter & Consent Form
4. Interview Audio-Recording Information Letter & Consent Form
SCREENING INFORMATION LETTER & CONSENT FORM

Dear Participant,

Who Am I & Why Am I Doing This Study?
My name is Andrea Regina. I am a graduate student at the University of Toronto. I would like to invite you to be part of a research study that I am doing with youth-in-care, aged 16 or older, for my degree at university. Dr. Dale Willows, a professor at my school, will be supervising the study. We are doing this to learn more about the reading and writing skills (also called literacy skills) of youth-in-care. We also want to learn what youth-in-care think about reading and writing, think about themselves and think about our summer literacy program. We think that this research is important so that social workers, foster parents and other people who work with youth-in-care can better help them now and in the future.

Description of the Study – What’s Involved?
The first step in this research is today’s “screening” appointment. This meeting will last for about 1 ½ hours. You will be asked to complete some questionnaires on how you feel about reading and writing. I will read these questions to you. Each questionnaire will ask you to pick a statement that is most like you. For example, you might get a question like, “Do you like to read?” or a statement such as, “I feel uptight and tense when I read”. You will then be asked to pick the answer that best shows how you feel.

You will also do some reading and writing activities. From these activities, I can figure out (1) if your reading and writing skills match what we are looking for in our study and (2) if the reading and writing summer program may be helpful to you.

Literacy Program Participants:
The literacy program that we are running will start on Tuesday July 7 and finish on Friday August 21, 2009. Each week, classes will be held from Tuesday to Friday, from 10 am until 3 pm each day. The literacy program will teach both reading and writing skills. The classes will be held at the Pape Adolescent Resource Centre (PARC). PARC is located at 469 Pape Avenue in Toronto.

If there is a good fit between you and the program and you would like to learn more about it, we will meet again in June before it starts. When we meet, I will tell you more about the program and answer any questions that you have. We will also do some more reading and writing activities and answer questions like those that you do today. To help us with our research, you will be asked to do these activities once more at the end of the program in August and 3 months later in November. Each of these meetings will be about 2 hours long.

During these meeting, you may be asked to answer some interview questions. These questions will be about your feelings on reading and writing and ask about your future plans. We would like to tape-record this interview so that later we can type up what you have said. However, we don’t have to tape the interview if it makes you feel uncomfortable. We will go over a consent letter about taping before the interview.

You will be paid for coming to the literacy program. If you attend all of the classes in the summer, you will be paid $65 at the end of each week. You will also be paid an extra $20 if you come to the follow-up meeting in November.
**Research Only Participants**
If the summer literacy program would not be helpful to you, you may still be able to participate in the research. For this, we will meet once in August to do activities like the ones you do today. This meeting will take around 2 hours and you will be paid $20 for your time.

**Confidentiality – Who Will Know About Your Answers?**
Your answers will only be used for research. I will not put your name or your personal information on any of the activities we do together, or include them in anything that I write or present describing the research results. Only Dr. Willows and members of her research team will be able to look at the finished activities. These will be kept in locked filing cabinets in our research lab for the next 10 years. We will use a code on these files instead of your name.

Your information is private. No one will know what you have said unless you tell me that you are being hurt, are hurting yourself or are hurting someone else. In this case, I will have to tell people like your foster parent or case worker or the police to make sure that you are safe and getting help.

**Are There Bad Things (Risks) And Good Things (Benefits) About The Study?**
There are no bad things about the study. The only thing that might happen when talking about yourself is that you may feel a bit uncomfortable or it may bring up some negative feelings. If you feel like you need some help, please let me or my supervisor know so that we can support you better. I will also give you information about support services that you can call to get help. A good thing about this study is that it can help us create better and more useful programs for youth-in-care. As well, youth in the literacy program may learn new skills and strategies to help with their reading and writing.

**Consent – Participation In This Study Is Your Choice:**
It is completely up to you to decide if you would like to be part of my study. If you don’t want to participate, you will still have good care at PARC and the Children’s Aid Society (CAS). If you are interested and would like to be in the study, you will be asked to sign a consent form. As a participant, you may skip any questions that you do not want to answer, ask for a break and/or leave the study at any time. At each meeting or at any other time, I will be happy to answer any of your questions. If you would like to talk about taking part in this study with someone who is not involved in it, you may call the Ethics Review Office at the University of Toronto at (416) 946-3273.

**How Do I Find Out About The Results of the Study?**
A summary of the overall results of this study can be mailed to you about 1 year after the program. If you would like a copy of the results, please place a checkmark in the box □.

PARC will also be given a copy of the results which you can ask to see. As well, you can always contact me or Dr. Willows at any time with questions that you may have about the study or its results.

Thank you,

Andrea Regina, BEd, MA  
Project Investigator & Doctoral Candidate  
Department of Human Development & Applied Psychology, OISE/University of Toronto  
aregina@oise.utoronto.ca
Consent – I Choose To Participate:

I agree that the study described above has been explained to me. All of my questions have been answered to my liking. I have been told and understand that I have the right not to participate and to leave the study without affecting the care that I receive through the Children’s Aid Society or the Pape Adolescent Resource Centre. As well, the possible risks and benefits of the study have been explained to me. I know that I may ask questions I have about the study at any time. I also know that my records will be kept confidential, unless the information is required by law.

I give my permission to participate.

________________________________________________________________________
Name (please print) The persons who may be contacted about the research are:
________________________________________________________________________
Signature Andrea Regina, Project Investigator
(416) xxx-xxxx
aregina@oise.utoronto.ca
________________________________________________________________________
Date Dr. Dale Willows, Project Supervisor
(416) xxx-xxxx
dwillows@oise.utoronto.ca
________________________________________________________________________
Date of Birth
________________________________________________________________________
Home Address/ Postal Code
________________________________________________________________________
Home Telephone Number Other Telephone Number
________________________________________________________________________
“I agree that the information gathered in this study can be used for future research as long as my personal information (i.e., name) is not used.”
________________________________________________________________________
Signature
Dear Participant,

I am inviting you to join the literacy program and research study. Last time we met, you completed some reading and writing activities which helped me to figure out that the literacy program may be helpful to you.

The goal of the literacy program is help build the reading and writing skills of youth-in-care. The goals of the research study are to learn more about the literacy skills of youth-in-care, about their thoughts and feelings on things like reading, writing and themselves, and about what works and what doesn’t work in the literacy program. We are doing this so that we can better help youth-in-care.

**What's Involved?**
The literacy program will start on **Tuesday July 7 and finish on Friday August 21, 2009**. Each week, classes will be held from **Tuesday to Friday** (there are no classes on Mondays), from **10 am until 3 pm each day**. Lunch is from 12pm to 1pm and food will be provided.

The literacy program will teach both reading and writing skills. You will be taught by a specially trained teacher in a small group with 4 to 5 other youth. There will be 14–16 participants in total. The classes will be held at the Pape Adolescent Resource Centre (PARC). PARC is located at 469 Pape Avenue in Toronto.

If you would like to participate, we will take some time today to do some more reading and writing activities and to answer questionnaires like those that you did in your first meeting with me. I will also ask you to answer some interview questions. These questions will focus on your feelings about reading, writing, the literacy program and your overall future plans. Today’s meeting should take about 2 hours.

To help us with our research, you will be asked to do these activities again at the end of the program in August and 3 months later in November. Each of these meetings will take about 2 hours. If after this last meeting you would like to know how much your reading and writing skills have changed, we can meet once more to talk about your results.

You will be paid $65.00 at the end of each week during the literacy program if you attend each class. You will also be given an extra $20 at the end of the 3 month follow-up meeting. You are free to leave the program and study at anytime. Payments will stop once you leave.

**Reading – What Will I Learn?**
Many people have difficulty remembering the sounds that letters make and have trouble reading unknown words. Your special reading program will teach you the sounds that letters make and how to use these letters and sounds to read new words. You will also learn other important strategies to help you read difficult words. This program was developed by teachers at The Hospital for Sick Children. It has helped many children and teen-agers in Canada and the United States improve their reading.

**Writing – What Will I Learn?**
Writing is also very difficult as it takes many skills. Your writing program will teach you writing strategies to help with grammar, spelling and the writing of simple sentences through everyday writing activities. This program has been created using research from writing experts and teachers in Canada and the United States.
Talking To Others:
With your permission, I would also like to talk with someone who you feel knows you best (like your foster parent or case worker). I would like to ask them how they feel about reading, writing, and the literacy program. I am also curious to know what they think about your literacy skills and beliefs. I will use what they say for my research only. It will not affect you, our relationship or your program. Your information is private. I will not tell them anything that you have told me. In the same way, I will also keep private what they tell me.

The only time that I would have to tell someone what you have said is if you tell me that you are being hurt, are hurting yourself or are hurting someone else. In this case, I may have to tell people like your foster parent or case worker or the police to make sure that you are safe and getting help.

Your answers will only be used for research. I will not put your name or your personal information on any of the activities we do together, or include them in anything that I write or present describing the research results. Only Dr. Willows and members of her research team will be able to look at the finished activities. These will be kept in locked filing cabinets in our research lab and will use a number code instead of your name.

Are There Bad Things (Risks) And Good Things (Benefits) About The Study?
There are no bad things about the study. The only thing that might happen when talking about yourself is that you may feel a bit uncomfortable or it may bring up some negative feelings. If you feel like you need some help, please let me or my supervisor know so that we can support you better. I will also give you information about support services that you can call to get help. A good thing about this study is that you may learn new skills and strategies to help with your reading and writing. As well, the literacy research can help us create better and more useful programs for youth-in-care.

Consent – Participation In This Study Is Your Choice:
It is completely up to you to decide if you would like to be part of my study. If you don’t want to participate, you will still have good care at PARC and the Children’s Aid Society (CAS). If you are interested and would like to be in the study, you will be asked to sign a consent form. As a participant, you may skip any questions that you do not want to answer, ask for a break and/or leave the study at any time. At each meeting or at any other time, I will be happy to answer any of your questions. If you would like to talk about taking part in this study with someone who is not involved in it, you may call the Ethics Review Office at the University of Toronto at (416) 946-3273.

How Do I Find Out About The Results of the Study?
A summary of the overall results of this study can be mailed to you about 1 year after the program. If you would like a copy of the results, please place a checkmark in the box ☐.

PARC will also be given a copy of the results which you can ask to see. As well, feel free to contact me or Dr. Willows at any time with questions that you may have about the study or results.

Thank you,

Andrea Regina, BEd, MA
Project Investigator & Doctoral Candidate
Department of Human Development & Applied Psychology, OISE/University of Toronto
aregina@oise.utoronto.ca
Consent – I Choose To Participate:

I agree that the study and program described above has been explained to me. All of my questions have been answered to my liking. I have been told and understand that I have the right not to participate and to leave the study without affecting the care that I receive through the Children’s Aid Society or the Pape Adolescent Resource Centre. As well, the possible risks and benefits of the study have been explained to me. I know that I may ask questions I have about the study at any time. I also know that my records will be kept confidential, unless the information is required by law.

I give my permission to participate.

__________________________________________________________
Name (please print)  The persons who may be contacted about the research are:

__________________________________________________________
Signature  Andrea Regina, Project Investigator
(416) xxx-xxxx
aregina@oise.utoronto.ca

__________________________________________________________
Date  Dr. Dale Willows, Project Supervisor
(416) xxx-xxxx
dwillows@oise.utoronto.ca

__________________________________________________________
Date of Birth

__________________________________________________________
Home Address/ Postal Code

__________________________________________________________
Home Telephone Number  Other Telephone Number

“I allow my care-giver to be contacted so that he/she may take part in an interview for this study.”

__________________________________________________________
Signature

“I agree that the information gathered in this study can be used for future research as long as my personal information (i.e., name) is not used.”

__________________________________________________________
Signature
Dear Participant,

I am inviting you to participate in the research part of this study. Last time we met, you completed some reading and writing activities. Based on these activities, I was able to figure out that your reading and writing skills match what we are looking for in our study.

The goals of this study are to learn more about the literacy skills of youth-in-care and about their thoughts and feelings on things like reading, writing and themselves. We are doing this research so that we can better help youth-in-care. I am asking you to take part in this study because I believe that your feelings and opinions are important information.

What About The Literacy Program?
The literacy activities that you did also showed me that the summer literacy program is not helpful to you. This is because the program teaches things that you already know. You can still attend other programs offered at PARC. If you would like information about PARC’s programs, you can call the Program Director or I can pass along your name for you.

What’s Involved In The Study?
If you would like to participate in the research, we will take some time today to do some more reading and writing activities and to answer questionnaires like those that you did in your first meeting with me. I will also ask you to answer some interview questions. These questions will focus on your thoughts and feelings about reading and writing and about your overall future plans. Today’s meeting should take about 2 hours. If you decide to continue today in the study, you will be paid $20 for your time.

Confidentiality – Who Will Know About Your Answers?
Your answers will only be used for research. I will not put your name or your personal information on any of the activities we do together, or include them in anything that I write or present describing the research results. Only Dr. Willows and members of her research team will be able to look at the finished activities. These will be kept in locked filing cabinets in our research lab for the next 10 years. We will use a code on these files instead of your name.

Your information is private. No one will know what you have said unless you tell me that you are being hurt, are hurting yourself or are hurting someone else. In this case, I will have to tell people like your foster parent or case worker or the police to make sure that you are safe and getting help.

Are There Bad Things (Risks) And Good Things (Benefits) About The Study?
There are no bad things about the study. The only thing that might happen when talking about yourself is that you may feel a bit uncomfortable or it may bring up some negative feelings. If you feel like you need some help, please let me or my supervisor know so that we can support you better. I will also give you information about support services that you can call to get help. A good thing about this study is that it can help us create better and more useful programs for youth-in-care.
Consent – Participation In This Study Is Your Choice:
It is completely up to you to decide if you would like to be part of my study. If you don’t want to participate, you will still have good care at PARC and the Children’s Aid Society (CAS). If you are interested and would like to be in the study, you will be asked to sign a consent form. As a participant, you may skip any questions that you do not want to answer, ask for a break and/or leave the study at any time. At each meeting or at any other time, I will be happy to answer any of your questions. If you would like to talk about taking part in this study with someone who is not involved in it, you may call the Ethics Review Office at the University of Toronto at (416) 946-3273.

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PARC will also be given a copy of the results which you can ask to see. As well, feel free to contact me or Dr. Willows at any time with questions that you may have about the study or results.

Thank you,

Andrea Regina, BEd, MA
Project Investigator & Doctoral Candidate
Department of Human Development & Applied Psychology, OISE/University of Toronto
aregina@oise.utoronto.ca
Consent – I Choose To Participate:

I agree that the study described above has been explained to me. All of my questions have been answered to my liking. I have been told and understand that I have the right not to participate and to leave the study without affecting the care that I receive through the Children’s Aid Society or the Pape Adolescent Resource Centre. As well, the possible risks and benefits of the study have been explained to me. I know that I may ask questions I have about the study at any time. I also know that my records will be kept confidential, unless the information is required by law.

I give my permission to participate.

________________________________________________________________________
Name (please print) The persons who may be contacted about the research are:

________________________________________________________________________
Signature Andrea Regina, Project Investigator
(416) xxx-xxxx
aregina@oise.utoronto.ca

________________________________________________________________________
Date Dr. Dale Willows, Project Supervisor
(416) xxx-xxxx
dwillows@oise.utoronto.ca

________________________________________________________________________
Date of Birth

________________________________________________________________________
Home Address/ Postal Code

________________________________________________________________________
Home Telephone Number Other Telephone Number

“I agree that the information gathered in this study can be used for future research as long as my personal information (i.e., name) is not used.”

________________________________________________________________________
Signature
Dear Participant,

I am inviting you to take part in an interview for the research study. This interview is being done to help us learn more about youth-in-care’s thoughts and feelings about reading, writing and their overall future plans. If you are part of the literacy program, I would also like to know what you think of the program. The interview should take about 30 minutes to complete.

I am asking for your permission to tape-record this interview so that I can later type up what you have said. However, we don’t have to record the interview if you feel uncomfortable having any or all of your answers taped.

Your answers will only be used for research. I will not put your name or your personal information on any of the tapes or typed answers. As well, I will not include your personal information in anything that I write or present describing the research results.

Only Dr. Willows and members of her research team will be able to hear or look at the interviews. These will be kept in locked filing cabinets in our research lab for the next 10 years. A number code will be used on these files instead of your name. As well, the tapes will be destroyed after they have been typed out. This will likely happen in the Fall of 2010.

There are no likely risks in taping the interview.

It is up to you whether or not we tape record this interview. If you don’t want to have your responses taped, you may still continue with the interview. If you don’t want to participate in the interview, you will still have good care at PARC and the Children’s Aid Society (CAS).

If you give permission to have your answers taped, you will be asked to sign a consent form.

Thank You,

Andrea Regina, BEd, MA
Project Investigator & Doctoral Candidate
Department of Human Development & Applied Psychology, OISE/University of Toronto
aregina@oise.utoronto.ca
Audio-Recording Consent – I Allow My Interview To Be Taped:

I agree that the interview procedures have been explained to me. All of my questions have been answered to my liking. I have been told and understand that I have the right not to have my interview taped. I also can stop taping at any time without affecting the care that I receive through the Children’s Aid Society or at PARC. I also know that my records will be kept confidential, unless the information is required by law.

I give permission to have my interview responses taped.

Name (please print)

Signature

Date

Date of Birth

Home Address/ Postal Code

Home Telephone Number

Other Telephone Number

The persons who may be contacted about the research are:

Andrea Regina, Project Investigator
(416) xxx-xxxx
aregina@oise.utoronto.ca

Dr. Dale Willows, Project Supervisor
(416) xxx-xxxx
dwillows@oise.utoronto.ca
Appendix F

Lit For Life Dinner Dance

A fundraising event to support youth-in-care through literacy programming and research

Help show youth-in-care that we do!

In association with the Pape Adolescent Resource Centre (PARC) and the Children’s Aid Foundation

Supporting Youth-In-Care through Literacy Programming and Research

"Lit For Life" Youth Literacy Reaches Program:
- An intensive remedial reading and writing program
- For youth aged 15-21 who
  - have histories of abuse, neglect and abandonment
  - significantly struggle with literacy

The program aims to bring about life-changing lys:
- Improving reading and writing skills and related negative self-concept
- Developing a sense of accomplishment, increasing autonomy and amplifying feelings of empowerment
- Promoting a sense of belonging, acceptance and friendship where other none exists
- Having a positive impact on future goals and aspirations
- Contributing to academic research and development in the areas of maltreatment and best prevention and intervention practices

Funds raised will support:
- Youth participation, travel and food costs
- Assessment and program material costs

In association with the Pape Adolescent Resource Centre (PARC) and the Children’s Aid Foundation, a Canadian charitable organization (Registration # 109376483RR0001). Contact us at lite-lit@canada.com
EZ Street Band & Blue Sky DJ Service

Donated Raffle & Door Prizes

READHead Volunteer Group

A. Regina, D. Willows, J. Chong

Silent Auction

Dinner Dance at DaVinci Banquet Hall
## Appendix G

### Assessment Schedule

<table>
<thead>
<tr>
<th>Measures</th>
<th>Good Reader</th>
<th>Baseline</th>
<th>Pre-Test</th>
<th>Post-Test</th>
<th>Follow-Up</th>
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<td>X</td>
<td>X</td>
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<td>Ideal Job</td>
<td>8 Week Waitlist</td>
<td>Ideal Job</td>
<td>7 Week Literacy Program</td>
<td>3 Month Wait Period</td>
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<td><strong>Interviews</strong></td>
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<td>Post-Intervention: Literacy Experiences, Self-Perceptions &amp; Program Evaluation</td>
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<td>Case Worker Interviews</td>
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**8 WEEK WAITLIST** 7 WEEK LITERACY PROGRAM 3 MONTH WAIT PERIOD
Appendix H

Curriculum Based Measurement – Writing

Total Words Written (TWW)
- defined as the number of words that the student wrote in 10 minutes; spelling, grammar, and content were not taken into consideration when counting the number of words, numerical representations and symbols were not included in this total

Words Spelled Correctly (WSC)
- defined as the number of correctly spelled words produced irrespective of syntax and semantics given the context of the sentence

Proportion of Words Spelled Correctly (% WSC)
- defined as the percentage of the number of words spelled correctly divided by the total number of words written in the composition

Correct Word Sequences (CWS)
- defined as two adjacent, correctly spelled words that were syntactically and semantically appropriate given the context of the sentence; words were examined for correct meanings, tenses, number agreement (singular or plural), and noun-verb correspondences; punctuation, capitalization, and spelling were also taken into account

Total Possible Number of Correct Word Sequences (TPCWS)
- defined as the total number of word sequences produced

Proportion of Correct Word Sequences (% CWS)
- defined as the percentage of the number of correct word sequences divided by the total number of possible word sequences

Number of Correct Word Sequences Minus Number of Incorrect Word Sequences (CMIC)
- defined by subtracting the number of incorrect word sequences from the total number of correct word sequences

Number of 7-Letter Words (VOC)
- defined as the number of 7-letter words that the student wrote in 10 minutes; spelling, grammar, and content were not taken into consideration when counting

Informed by Amato & Watkins, 2011, pg. 198
Writing Sample #1

Describe your ideal job:

"Carpenter. Thing I know are drywalling, woodworking, plumbing, little bit of electric. Something."
“My dream vacation will go out of this state and country away from everyone. I will have my friends to come and no family. No workers...the beaches or at parties and be myself again and feel normal and no worries and sleep in. Don’t worry about moving and meetings and all I want is peace and quiet and fun. Kay! Can’t wait to go out of CAS and house arrest.”
## Appendix I

### Writing Rubric

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<th>IDEAS</th>
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<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Message:</strong> highlights important ideas &amp; main concepts</td>
<td>not on topic</td>
<td>somewhat on topic, sometimes identifies main ideas and concepts</td>
<td>mostly on topic, consistently identifies main ideas and concepts</td>
<td>fully developed topic of main ideas and concepts</td>
</tr>
<tr>
<td><strong>Details:</strong> includes major details, elaborates with relevant details</td>
<td>no details</td>
<td>some details given to support ideas (listing)</td>
<td>many details and ideas presented to support topic</td>
<td>highly relevant details and examples given to support ideas (anecdotal expansion)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ORGANIZATION</th>
<th>0</th>
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<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sequencing:</strong> sequences ideas logically; ideas and information are relevant</td>
<td>a series of random, disjointed or rambling statements</td>
<td>has some sequence sometimes organizes and presents written work appropriately</td>
<td>consistently organizes and presents written work appropriately</td>
<td>always moves smoothly and coherently from start to finish</td>
</tr>
<tr>
<td><strong>Beginning:</strong> has a clear beginning</td>
<td>no evident beginning, abrupt</td>
<td>weak opening</td>
<td>serviceable, ordinary</td>
<td>grabbing and engaging</td>
</tr>
<tr>
<td><strong>Ending:</strong> has a clear ending</td>
<td>no clear ending, abrupt</td>
<td>weak and inconclusive</td>
<td>serviceable, ordinary</td>
<td>grabbing and engaging</td>
</tr>
</tbody>
</table>

<table>
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<th>HOLISTIC IMPRESSION</th>
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<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>General impression of sample</td>
<td>no clear focus, disjointed thoughts, immature writing, dull</td>
<td>underdeveloped topic and structure of written work</td>
<td>simple and straightforward topic development</td>
<td>interesting, unique and well-crafted topic and written work</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SCORING</th>
<th>SAMPLE 1</th>
<th>SAMPLE 2</th>
<th>SAMPLE 3</th>
<th>SAMPLE 4</th>
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</thead>
<tbody>
<tr>
<td>Message</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Details</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sequencing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beginning</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ending</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>TOTAL (18)</td>
<td></td>
<td></td>
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<td></td>
</tr>
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</table>
Appendix J

Self-Perception Questionnaires

1. Reading Self-Perception Questionnaire
2. Writing Self-Perception Questionnaire
Say:
I would like to ask you some questions about how you feel about reading. When I ask you a question, I would like you to tell me how you feel by choosing one of these words here (point to card) to best reflect your thoughts (“Never”, “Not Usually”, “Sometimes”, “Usually” or “Always”). Your answers are just about you; how you really feel. Please be honest and think about each question before you make your choice.

Let’s try a few examples first. I will read you a question and you will tell me how you feel by choosing one of these answers (point to the card). If you don’t understand something, just tell me you don’t know what it means, and I’ll explain it to you.

Examples:

For example, if I asked you…

A. Do you like watching movies? What answer best describes you? (Read choices and sample)

<table>
<thead>
<tr>
<th>Always</th>
<th>meaning that you like to watch movies whenever you can OR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Usually</td>
<td>meaning that you like to watch movies most of the time, but not always</td>
</tr>
<tr>
<td>Sometimes</td>
<td>meaning that half the time you do and half the time you don’t</td>
</tr>
<tr>
<td>Not Usually</td>
<td>meaning that most of the time you do not like to watch movies, but sometimes you might OR</td>
</tr>
<tr>
<td>Never</td>
<td>meaning that you do not like to watch movies ever.</td>
</tr>
</tbody>
</table>

Okay, let’s try a few more. Remember to pick the best response that describes how you feel about reading. (Probe with sample responses if needed).

B. Are you good at playing sports?

<table>
<thead>
<tr>
<th>Always</th>
<th>meaning that you are always good at playing sports OR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Usually</td>
<td>meaning that most of the time you are good at sports, but not always</td>
</tr>
<tr>
<td>Sometimes</td>
<td>meaning that half the time you do and half the time you don’t</td>
</tr>
<tr>
<td>Not Usually</td>
<td>meaning that most of the time you are not good at sports, but sometimes you are OR</td>
</tr>
<tr>
<td>Never</td>
<td>meaning that you are not good at sports ever.</td>
</tr>
</tbody>
</table>

C. Is cooking difficult for you?

<table>
<thead>
<tr>
<th>Always</th>
<th>meaning that cooking is always hard OR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Usually</td>
<td>meaning that most of the time cooking is hard, but not always.</td>
</tr>
<tr>
<td>Sometimes</td>
<td>meaning that half the time you do and half the time you don’t</td>
</tr>
<tr>
<td>Not Usually</td>
<td>meaning that most of the time you good at cooking but not always OR</td>
</tr>
<tr>
<td>Never</td>
<td>meaning that you always find cooking to be easy.</td>
</tr>
</tbody>
</table>

Let’s do the rest of the questions the same way.
Reading Self-Concept Scale (Adapted from Chapman & Tunmer, 1999)

<table>
<thead>
<tr>
<th></th>
<th>Unsure</th>
<th>Never</th>
<th>Not Usually</th>
<th>Sometimes</th>
<th>Usually</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

* Probe if necessary: What answer best reflects you?

**Practice Items**

- A. Do you like watching movies?
- B. Are you good at playing sports?
- C. Is cooking difficult for you?

**Scale Items**

- A. Is it fun for you to read?
- C. Can you figure out hard words by yourself when you read? (Q)
- D. If you can’t say a word do you get someone to help you?
- A. Do you like to read books with lots of words in them?
- C. Are activities involving reading easy for you?
- D. Do you make a lot of mistakes in reading? (Q)
- A. Do you like reading to yourself?
- C. Are you good at correcting mistakes in reading? (Q)
- D. Do you need extra help in reading?
- C. Can you sound out words?
- C. Do others think you are a good reader?
- A. Do you like reading aloud?
- D. Is it hard for you to understand the material you have to read in class or at work?
- A. Does reading make you feel good about yourself?
- C. Do you think that you are good at reading? (Q)
- D. Do other youth read better than you?
- A. Do you enjoy reading?
- D. Can you read most things easily?

* Note that all Difficulty subscale items are reverse scored.

<table>
<thead>
<tr>
<th>Sum Responses</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIFFICULTY (D*)=</td>
<td>/6</td>
</tr>
<tr>
<td>COMPETENCE (C)=</td>
<td>/6</td>
</tr>
<tr>
<td>ATTITUDE (A)=</td>
<td>/6</td>
</tr>
<tr>
<td>TOTAL (D+C+A)=</td>
<td>/18</td>
</tr>
</tbody>
</table>
**Writing Self-Concept Scale (Adapted from Chapman, & Tunmer, 1999)**

**Say:**

I would like to ask you some questions about how you feel about writing. When I ask you a question, I would like you to tell me how you feel by choosing one of these words here (point to card) to best reflect your thoughts (re-point and say: “Never”, “Not Usually”, “Sometimes”, “Usually” or “Always”). Your answers are just about you; how you really feel. Please be honest and think about each question before you make your choice.

Let’s try a few examples first. I will read you a question and you will tell me how you feel by choosing one of these answers (point to the card). If you don’t understand something, just tell me you don’t know what it means, and I’ll explain it to you.

**Examples:**

For example, if I asked you…

**D. Do you like watching movies? What answer best describes you? (Read choices and sample)**

<table>
<thead>
<tr>
<th>Word</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Always</td>
<td>meaning that you like to watch movies whenever you can OR</td>
</tr>
<tr>
<td>Usually</td>
<td>meaning that you like to watch movies most of the time, but not always</td>
</tr>
<tr>
<td>Sometimes</td>
<td>meaning that half the time you do and half the time you don’t</td>
</tr>
<tr>
<td>Not Usually</td>
<td>meaning that most of the time you do not like to watch movies, but sometimes you might OR</td>
</tr>
<tr>
<td>Never</td>
<td>meaning that you do not like to watch movies ever.</td>
</tr>
</tbody>
</table>

Okay, let’s try a few more. Remember to pick the best response that describes how you feel about writing. (Probe with sample responses if needed).

**E. Are you good at playing sports?**

<table>
<thead>
<tr>
<th>Word</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Always</td>
<td>meaning that you are always good at playing sports OR</td>
</tr>
<tr>
<td>Usually</td>
<td>meaning that most of the time you are good at sports, but not always.</td>
</tr>
<tr>
<td>Sometimes</td>
<td>meaning that half the time you do and half the time you don’t</td>
</tr>
<tr>
<td>Not Usually</td>
<td>meaning that most of the time you are not good at sports, but sometimes you are OR</td>
</tr>
<tr>
<td>Never</td>
<td>meaning that you are not good at sports ever.</td>
</tr>
</tbody>
</table>

**F. Is cooking difficult for you?**

<table>
<thead>
<tr>
<th>Word</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Always</td>
<td>meaning that cooking is always hard OR</td>
</tr>
<tr>
<td>Usually</td>
<td>meaning that most of the time cooking is hard, but not always.</td>
</tr>
<tr>
<td>Sometimes</td>
<td>meaning that half the time you do and half the time you don’t</td>
</tr>
<tr>
<td>Not Usually</td>
<td>meaning that most of the time you good at cooking but not always OR</td>
</tr>
<tr>
<td>Never</td>
<td>meaning that you always find cooking to be easy.</td>
</tr>
</tbody>
</table>

Let’s do the rest of the questions the same way.
Writing Self-Concept Scale (Adapted from Chapman & Tunmer, 1999)

<table>
<thead>
<tr>
<th></th>
<th>Unsure</th>
<th>Never</th>
<th>Not Usually</th>
<th>Sometimes</th>
<th>Usually</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

* Probe if necessary: What answer best reflects you?

Practice Items
- A. Do you like watching movies?
- B. Are you good at playing sports?
- C. Is cooking difficult for you?

Scale Items
- A. Is it fun for you to write?
- C. Can you figure out how to spell hard words by yourself when you write? (Q)
- D. If you can’t spell a word do you get someone to help you?
- A. Do you like writing stories and/or essays?
- C. Are activities involving writing easy for you?
- D. Do you make a lot of mistakes when you write? (Q)
- A. Do you like writing on your own time?
- C. Are you good at correcting mistakes while writing? (Q)
- D. Do you need extra help with writing?
- C. Can you write sentences easily?
- C. Do others think you are a good writer?
- A. Do you like having others read what you have written?
- D. Is it hard for you to express your ideas in writing?
- A. Does writing make you feel good about yourself?
- C. Do you think that you are good at writing? (Q)
- D. Do other youth write better than you?
- A. Do you enjoy writing?
- D. Can you express yourself in writing easily?

* Note that all Difficulty subscale items are reverse scored.

<table>
<thead>
<tr>
<th></th>
<th>Sum Responses</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIFFICULTY (D*)=</td>
<td>/6</td>
<td></td>
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<tr>
<td>COMPETENCE (C)=</td>
<td>/6</td>
<td></td>
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<tr>
<td>ATTITUDE (A)=</td>
<td>/6</td>
<td></td>
</tr>
<tr>
<td>TOTAL (D+C+A)=</td>
<td>/18</td>
<td></td>
</tr>
</tbody>
</table>
Appendix K

Semi-Structured Interviews

1. Pre-Intervention Interview
2. Post-Intervention Interview
Pre-Intervention Interview

Reading:

1. What kinds of materials do you like to read?

2. How often do you read? (Q) For how long?

3. Do you enjoy reading? (Q) Why / why not?

4. How important is it for you to be good at reading?
   a. Not important
   b. Somewhat important
   c. Very important
   (Q) Why?

5. Describe yourself as a reader. Describe your reading skills.
   (Q) Tell me more about it. Explain what you mean. Why?

6. Do you see yourself as needing to improve your reading?
   (Q) If yes, what are some areas that you would like to improve? If no, why not?

7. (If appropriate based on above answers): What obstacles have you faced because
   reading is difficult for you?

8. If you came across a word in a book that you could not read, what would you do?
   (Q) If, “I would try to figure it out”, ask: How would you try to figure it out?

Writing:

1. What kinds of writing do you do (e.g., email, stories, notes, poetry, essays, schoolwork, journal)? (Q) What kinds of things do you write about?

2. How often do you write? (Q) For how long?

3. Do you enjoy writing? (Q) Why / why not?

4. How important is it for you to be good at writing?
   a. Not important
   b. Somewhat important
   c. Very important
   (Q) Why?
5. Describe yourself as a writer. Describe your writing skills.  
   (Q) Tell me more about it. Explain what you mean. Why?

6. Do you see yourself as needing to improve your writing?  
   (Q) If yes, what are some areas that you would like to improve? If no, why not?

7. (If appropriate based on above answers): What obstacles have you faced because 
   writing is difficult for you?

8. If you wanted to write a word but did not know how to spell it or you wanted to write a 
   longer piece but didn’t know where to start, what would you do?  
   (Q) If, “I would try to figure it out”, ask: How would you try to figure it out?

Program:

1. Why are you participating in the summer program?

2. How do you feel about participating in the program?

3. Is there anything you are looking forward to and/or is there anything that you are 
   worried about?

4. What kind of support do you think you need?

5. Have you set any specific goals for the program? What are they?  
   (Q) If, “I want to learn better”, ask: Can you be more specific?

6. If there was no payment involved in taking this program, would you still participate in it?

7. Describe how you see yourself in 5 years, in terms of your:  
   Career & Education
Post-Intervention Interview

Reading:

1. What kinds of materials do you like to read?

2. Outside of class time, how often do you read? (Q) For how long?

3. Do you enjoy reading? (Q) Why / why not?

4. How important is it for you to be good at reading?
   a. Not important
   b. Somewhat important
   c. Very important
   (Q) Why?

5. Describe yourself as a reader. Describe your reading skills.
   (Q) Tell me more about it. Explain what you mean. Why?

6. Struggling Readers Only:
   Having participated in this program, do you think that your reading skills have changed?
   (Q) In what way?

7. Have your reading habits changed? In what way? (e.g., are you reading anything new, are you reading more or less than before?)

8. Have your attitudes towards reading changed in anyway since the program?

9. Do you see yourself as needing to improve your reading?
   (Q) If yes, what are some areas that you would like to improve? If no, why not?

10. Complete this sentence: Reading makes me feel...

11. If you came across a word in a book that you could not read, what would you do?
   (Q) If, “I would try to figure it out”, ask: How would you try to figure it out?

12. Do you think that you are better at reading now? If so, is it because of your...
   - ability
   - effort (how hard you work)
   - strategy use
   - support from others
   - just plain luck?
Writing:

1. What kinds of writing do you do (e.g., email, stories, notes, poetry, essays, schoolwork, journal)? (Q) What kinds of things do you write about?

2. How often do you write? (Q) For how long?

3. Do you enjoy writing? (Q) Why / why not?

4. How important is it for you to be good at writing?
   d. Not important
   e. Somewhat important
   f. Very important
   (Q) Why?

5. Describe yourself as a writer. Describe your writing skills.
   (Q) Tell me more about it. Explain what you mean. Why?

6. Struggling Readers Only:
   Having participated in this program, do you think that your writing skills have changed? (Q) In what way?

7. Have your writing habits changed? In what way? (i.e., are you writing anything new, are you writing more or less than before?)

8. Have your attitudes towards writing changed in anyway since the program?

9. Do you see yourself as needing to improve your writing?
   (Q) If yes, what are some areas that you would like to improve? If no, why not?

10. Complete this sentence: Writing makes me feel...

11. If you wanted to write a word but did not know how to spell it or you wanted to write a longer piece but didn’t know where to start, what would you do?
   (Q) If, “I would try to figure it out”, ask: How would you try to figure it out?

12. Do you think that you are better at writing now? If so, is it because of your...
   • ability
   • effort (how hard you work)
   • strategy use
   • support from others
   • just plain luck?
Program:

1. Why are you participating in the summer program?

2. What made you complete the program (stick it out)?

3. What goals did you set for yourself at the beginning of the program? Do you feel that those goals have been met? (Q) If, “I want to learn to read better”, ask: Can you be more specific?

4. Tell me about your overall experience in the program.

5. What was the best thing that happened to you during the course of this program? The worst?

6. Tell me about something that you learned, or something that had an impact on you this summer?
   Struggling Readers Only: If answer relates to literacy skills, follow up by saying: Now tell me about something you learned that had an impact on you this summer that isn’t related to your literacy skills.

7. Do you think you have changed at all this summer? If so, how?

8. Has participating in this program made a difference in your life? How so?

9. How has or how will what you have learned help you in the future?

10. What skills taught were most important to you or made the most difference to your...
    • reading?
    • writing?

11. What parts of the reading program did you like or enjoy the most, if any?
    • I’d like your feedback on the library. What do you think about it?
    • Did you use it (how often or what stopped you)?
    • Was it a useful part of the program (why or why not)? (e.g., no restrictions on borrowing, free, no fines, long borrowing period)
    • Do you think you will use your public library or purchase books more often now after having access to our small library? (why or why not?)

12. What parts of the writing program did you like or enjoy the most, if any?
• I’d like your feedback on the YIC Network Magazine Article. What do you think about the opportunity to be part of the YIC Network magazine?

• Did it make a difference in how you feel about writing?

• What are your thoughts about using technology, like the computers and phones for writing? Were they a useful part of the program (why or why not)?

13. Explain how you felt about the learning format (e.g., learning in a small group, learning with other youth in care)

14. If you were to tell someone else about this program, what would you say?

15. If there was no payment involved in taking this program, would you still participate in it?

16. Describe how you see yourself in 5 years, in terms of your:
   Career & Education
Appendix L

Scatterplots of Struggling Readers’ Literacy Achievement & Self-Perceptions Gain Scores

Relationship between Reading Achievement & Overall Reading Self-Concept Gain Scores

1. WRMT-R Word Id Gain Scores vs. Reading Self-Perception Total Gain Scores
2. WRMT-R Word Attack Gain Scores vs. Reading Self-Perception Total Gain Scores
3. WRAT Reading Gain Scores vs. Reading Self-Perception Total Gain Scores
Relationship between Phonological Processing Skills & Overall Reading Self-Concept Gain Scores

CTOPP – Blending Words
Total Gain Scores

CTOPP – Elision
Total Gain Scores

CTOPP – Segmentation
Total Gain Scores

Reading Self-Perception
Total Gain Scores
Relationship between Writing Achievement Skills & Overall Writing Self-Concept Gain Scores

![Graph 1: WJ III ACH - Spelling Total Gain Scores vs. Writing Self-Perception Total Gain Scores]

![Graph 2: Correct Minus Incorrect Word Sequences Total Gain Scores vs. Writing Self-Perception Total Gain Scores]
Relationship between Reading Achievement & Writing Achievement Gain Scores

![Graph 1: WRMT-R Word Id Gain Scores vs. WJ III ACH Spelling Gain Scores](image1)

![Graph 2: WRMT-R Word Id Gain Scores vs. Correct Minus Incorrect Word Sequences Gain Scores](image2)
Relationship between Reading Self-Perception & Writing Self-Perception Total Gain Scores
Appendix M

Case Worker Interview – Post Program

Summer Intervention Program

<table>
<thead>
<tr>
<th>Applicant / Youth In Care Referral Information</th>
</tr>
</thead>
<tbody>
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<td>Surname:</td>
</tr>
<tr>
<td>Address:</td>
</tr>
<tr>
<td>Gender: M F</td>
</tr>
<tr>
<td>Worker:</td>
</tr>
<tr>
<td>Email:</td>
</tr>
</tbody>
</table>

**Say:**

I would like to ask you some questions about how you perceive the literacy program impacted your youth referral.

Your input helps us to learn more about literacy and youth in care and about how to make for better programming.

There are no right or wrong answers, and whether the feedback is positive or negative, it all helps us to learn. So please feel free to share your true feelings. All of your responses will remain confidential.

If you do agree to help us out:

- I will ask you some brief questions today
- record your responses in point form as we discuss your answers
- Confirm your responses prior to the end of the call and reconfirm verbal consent for your answers to be used anonymously for research purposes.
- Does this sound okay to you?

Thank you again for taking the time to help us in this study.
General PROGRAM Questions

Please answer from your perspective:

1. Prior to attending this summer, how did ____________ feel about participating in the literacy program? (e.g., excited, dreading, wanting, or fulfilling a requirement)

______________________________________________________________________________

2. Describe ______________ overall experience in the program.

______________________________________________________________________________

3. How do you feel the did the program impacted ____________, if at all?.

______________________________________________________________________________

4. What specific changes, if any, have you noticed in ______________ since attending the program (e.g., reading and writing skills, reading and writing habits, attitude towards reading and writing, social skills, behaviour, drive, ambition, feelings about self)

______________________________________________________________________________

5. Any other comments?
Appendix N

Lit For Life Program Supporters

Thank You

To all those who have helped to make the 'Lit for Life' Summer Literacy Program such a success! For your practical, moral and generous support of the program, our sincerest gratitude!

Children’s Aid Foundation & Children’s Aid Society of Toronto

Janice Blake, Grants Associate, CAF
Dr. Deborah Goodman, Manager of Research & Program Evaluation, CAST
Shazia Houssain, Human Resources, CAST

Ontario Institute for Studies in Education / University of Toronto

Dr. Esther Geva & Dr. Judith Wiener, & Dr. Rhonda Martinussen, HDAP & ICS
Dr. Nancy Link, Dr. Judith Silver, Beulah Worrell, OISE Counselling & Psychoeducational Clinic
Rose Stina, Office of Space Management
Marianna Richardson, Research Ethics Coordinator, & the Research Ethics Board

Research & Program Support

Dr. Maureen Lovett & The Learning Disability Research Program, Hospital for Sick Children
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