# EXAMINING THE PATTERNS OF OUT-OF-SCHOOL TIME ACTIVITIES IN RELATION TO POSITIVE YOUTH DEVELOPMENT FOR A POPULATION OF 4TH GRADE CHILDREN

by

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A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF

THE REQUIREMENTS FOR THE DEGREE OF

DOCTOR OF PHILOSOPHY

in

THE FACULTY OF GRADUATE AND POSTDOCTORAL STUDIES

(Human Development, Learning, and Culture)

THE UNIVERSITY OF BRITISH COLUMBIA
(Vancouver)

April 2014

## Abstract

Situated within a positive youth development (PYD) perspective, the purpose of the present study was to examine the combination of structured programs and free-time activities in a population-level sample of fourth grade children in relation to the Five Cs of PYD (i.e., indicators of positive functioning that include confidence, competence, connections, character, and caring; Lerner, Lerner et al., 2005). Data for this research were drawn from a large, population-level study. In all, 2,741 grade 4 children (48% girls) from diverse socio-economic status (SES) backgrounds in a large urban school district in Western Canada participated. A person-centered approach was used to identify different profile groups of involvement in structured programs and free-time activities during out-of-school time (OST). Profile groups were created using a cluster analytic technique for 2,193 children's responses to four structured programs (educational lessons, art/music lessons, individual sports, and team sports) and eight free-time activities (sports/exercise for fun, watching television, video/computer games, instant messaging, reading for fun, practicing a musical instrument, household chores, and arts and crafts). Cluster analysis revealed three distinct profile groups of children that included a *low involvement profile group* (watching television, video/computer games, reading for fun), a *free-time involvement profile group* (participation in all eight free-time activities), and a *high involvement profile group* (participation in all four structured programs and all eight free-time activities). Hierarchical multiple regression was used to control for gender, language, family composition, and SES. Regression results and effect sizes showed the largest differences between children in the low involvement profile group and children in the high involvement profile group. Regression results and effect sizes showed minimal differences between children in the free-time involvement profile group and children in the high involvement profile group.

Regression analyses examining interactions with gender and SES by profile groups were not significant. This study informs research and practice by addressing the patterns of participation in structured programs and free-time activities during middle childhood—two types of settings that primarily have been treated separately in the literature on OST and PYD during middle childhood.

## Preface

Approval for administering the survey to elementary schools was obtained from the Vancouver School Board on February 14, 2008. Ethical approval for the current study was received from the University of British Columbia Behavioural Research Ethics Board (BREB; certificate number: H10-02579) on April 18, 2012. Ethical approval of the project was renewed on March 7, 2013. Approval for access to the dataset was obtained from Population Data, BC (project number: Sweiss 12-C01), on April 25, 2012.

Collaborators are the following:

Drs. Kimberly Schonert-Reichl, Jennifer Shapka, and Bruno Zumbo provided guidance in the study design, data analysis, and writing of the dissertation document. This research was part of a larger study conducted in partnership with the Vancouver School Board, the United Way of the Lower Mainland, the Human Early Learning Partnership, and the University of British Columbia. The research was approved by the Vancouver Elementary School Teachers' Association. Partial funding for this project was provided by the United Way of the Lower Mainland. The principal investigator was Dr. Kimberly Schonert-Reichl, and co-investigators were Drs. Clyde Hertzman and Shelley Hymel. No publication arising from work presented in this thesis has been published to-date.

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**Acknowledgements**

Foremost, I would like to express my sincere gratitude to my advisor, Dr. Kimberly Schonert-Reichl, for her continuous support during my doctoral studies. Dr. Schonert-Reichl's unwavering patience, motivation, enthusiasm, warmth, guidance, and immense knowledge helped me to question more deeply, to challenge my thoughts, and to push myself to produce work of the highest standards. I could not have imagined having a better advisor and mentor during my doctoral program. I also offer my lasting appreciation to my committee members, Drs. Jennifer Shapka and Bruno Zumbo, for their constant support, guidance, encouragement, and insightful questions. I also want to thank my undergraduate advisor, Dr. Breckie Church, for her guidance and foresight since my undergraduate program.

I owe particular thanks to Tavinder Arc who provided statistical assistance when I needed it the most (which was often). I want to convey my gratitude to Nicole Catherine for her friendship, mentorship, and humor. Also appreciated are my peers and friends (who are too many to name) who have always been a positive presence and a support system in my life.

I want to express my love and gratitude to my life-partner, Victor Palacios. We met during my doctoral program and he has stood by my side every step of the way providing me with words of encouragement, space when I needed it, and lots of hugs and laughter. Extra special thanks are owed to my loving parents (Jeannette and Salameh Sweiss) and siblings (Kayed, Majed, Rima, & Sheima) who have supported me unconditionally through all of my years of education. It was always their love and encouragement that led me to believe in myself and to realize that I can follow my dreams. Lastly, but certainly not least, I want to express my sincere gratitude to my twin sister, Rima. She always believed in me and pushed me to be a better person. Without my twin, I would not be whole.

*To my mother and father*

# CHAPTER 1

## Introduction

In recent years, there has been a burgeoning research literature examining the risks and benefits of participation in organized, structured programs during the out-of-school hours in adolescence (Durlak, Weissberg, & Pachan, 2010; Mahoney, Larson, & Eccles, 2005). To date, the results from research have been somewhat mixed. On the one hand, some researchers have found positive associations between adolescents' participation in structured programs and social, emotional well-being (for a recent meta-analysis, see Durlak et al., 2010). On the other hand, some researchers have found either no positive relation between participation in structured programs and well-being (e.g., Csikszentmihalyi, Rathunde, & Whalen, 1993), or a negative association between participation and well-being (e.g., Mahoney, 2000). Despite the large body of literature on adolescents' participation in structured programs, very few researchers have examined children's participation in structured programs—particularly during middle childhood (see Fraser-Thomas, Côté, & Deakin, 2005; Mahoney, Lord, & Carryl, 2005; Morris & Kalil, 2006 for exception).

Moreover, the existing knowledge-base on how children spend their free-time in addition to participation in structured programs is exceedingly modest. Children and adolescents are likely to participate in a variety of constructive, organized programs and free-time leisure activities during the week, and even in the same day (Bartko & Eccles, 2003; Gilbert, 1999; Fredricks, & Eccles, 2006b; Weiss, Little, & Bouffard, 2005). In general, there is a relative paucity of research examining the *patterns* of participation in structured programs *and* free-time activities in relation to child well-being. The patterns of participation refer to the combination of participation in different OST programs (i.e., a program that is organized and/or

supervised/instructed by an adult) and/or leisure activities (i.e., activities that children engage in during their free-time after-school, such as watching television or reading for fun). One way to further explicate the significance of program and activity participation to well-being is to examine patterns of participation in a combination of structured programs and free-time activities in relation to well-being together in one study. Accordingly, the present study was designed to examine the patterns of participation during middle childhood in a combination of structured programs and free-time activities in relation to the Five Cs of PYD (i.e., indicators of positive functioning that include competence, confidence, connections, character, and caring; Lerner, Lerner et al., 2005).

Data for the present research were drawn from a larger population-level study examining fourth grade children's psychological, social, emotional, and physical well-being, and participation in OST structured programs and free-time activities via the Middle Years Development Instrument (MDI; Schonert-Reichl, Guhn et al., 2012). A person-centered approach was used to create profile groups representing children's patterns of participation in OST structured programs and/or free-time activities. Differences among the profile groups were then examined in relation to the Five Cs of PYD. A person-centered approach is one in which participants are first grouped together based on some criteria (e.g., participation in the same types of individual sport activities vs. participation in the same types of team sports), and second, after establishing different groups, examining how those groups are similar and/or different on various outcomes of interest. In contrast, a variable-centered approach is one in which the focus is on the relationship between the type of structured program and an outcome variable, or variables, of interest (e.g., the relationship between participation in sports and self-esteem; see Bartko & Eccles, 2003; Laursen & Hoff, 2006).

Building on a recent study conducted by Linver, Roth, and Brooks-Gunn (2009), who used a person-centered approach to examine patterns of participation in structured programs in relation to the Five Cs of PYD in a sample of early to late adolescents ($5^{th}$ to $12^{th}$ grade), the present study expanded on Linver and colleagues' study by examining the patterns of participation in both structured programs and free-time activities in relation to the Five Cs of PYD in a population-based sample of fourth grade children. The focus of the current study was on middle childhood because of the relative scarcity of research examining the relation of participation in OST programs and activities to child well-being during this time period in development—a time period identified as important due to the number of changes that occur in almost all spheres of development: biological, cognitive, social, and emotional (Blume & Zembar, 2007; Roeser, Strobel, & Quihuis, 2002). By using a person-centered approach, participants were identified based on those "who look similar across a profile of measures" (p. 347; Roeser et al., 2002). That is, the focus was on first identifying and grouping children who participated in similar types of OST structured programs and free-time activities, and then comparing the groups in relation to the Five Cs of PYD.

Two dimensions of OST settings were examined: participation in structured programs (e.g., organized and supervised programs such as team sports, art/music lessons) and participation in free-time activities (e.g., leisure activities such as watching television, doing exercise/sports for fun). Because researchers have previously demonstrated that program and activity choices vary by gender, race, and socio-economic status (SES; Bartko & Eccles, 2003; Eccles & Barber, 1999; Holland & Andre, 1987; McHale et al., 2001; McHale, Kim, Whiteman, & Crouter, 2004), gender, language, family composition, and SES (operationalized as median equivalized disposable income at the postal code level) were taken into account when examining

children's patterns of participation in relation to their levels of the Five Cs of PYD. SES was accessed from Canadian census tract 2005 data in which SES was based on aggregated information referred to as median equivalized disposable income (median earnings after taxes) at the postal code level (as opposed to individual- or family-level). Postal code level SES data were used in order to maintain confidentiality of participants and to remain parallel with the data, which were derived from a population-based sample.

**Out-of-School Time**

The past decade has seen a growing awareness of the need for providing quality after-school programming for school-aged children during out-of-school hours (from approximately 3:00 to 6:00 p.m.; Eccles & Gootman, 2002; Mahoney, Larson et al., 2005; Mahoney, Levine, & Hinga, 2010; Shernoff, 2010). With an average of 77% of Canadian mothers employed outside of the home with children under the age of 16 (Statistics Canada, 2011), less parental supervision is available for both children and adolescents. Despite the increase of women in the workforce, mothers still retain the responsibility for child care (Decter, 2011).

Many elementary school-aged children spend the out-of-school hours unsupervised, often coming home after school to an empty house (Canada Safety Council, 2009). Elementary school-aged children spend an average of 7.5 hours per day using a combination of technology (e.g., television, video games, internet, cell phones, MP3 players; Kaiser Foundation Report, 2010). Research has demonstrated various maladaptive outcomes in relation to overuse of technology and extended periods of sedentary behaviour, including obesity (e.g., Tremblay & Willms, 2003) and psychological disorders, such as anxiety, depression, or avoidant attachment (Bristol University, 2010). With a workforce that is increasingly populated by women, quality OST

programs are essential for supporting parent, child, and community needs during out-of-school hours (Decter, 2011).

As a consequence of children's discretionary time during the out-of-school hours, there has been a burst of research examining the ways in which children's and adolescents' participation in structured programs is associated with their positive growth and development (Harvard Family Research Project [HFRP], 2003). However, certain questions remain unanswered in the field of child and adolescent OST. For example, what is the impact on children's and adolescents' well-being if they participate in settings other than structured programs during out-of-school hours? Additionally, if children and adolescents are involved in different settings, then which combination of participation in structured programs and/or free-time activities leads to the best outcomes? The following review of the extant research attempts to answer these questions. I begin by delineating some of the terminology used to describe OST, as well as the types of structured programs and free-time activities addressed in the present study.

In the child and adolescent development literature, the time period that occurs after the end of the school day has been referred to as *after school time* by some (e.g., Flannery, Williams, & Vazsonyi, 1999; Marshall et al., 1997) and *out-of-school time* by others (see Duffett & Johnson, 2004; Larner, Zippiroli, & Behrman, 1999; National Institute of Out-of-School Time [NIOST], 2007). Varying terms also have been used to describe the ways in which children and adolescents spend their OST. Terms such as *after-school programs* (Durlak & Weissberg, 2007; Mahoney, Parente, & Lord, 2007), *extracurricular activities* (see Fredricks & Eccles, 2006a, 2006b, 2010; Mahoney, Larson et al., 2005; Urban, Lewin-Bizan, & Lerner, 2009), *organized/unorganized activities* (see Mahoney, Larson et al., 2005; McGee, Williams, Howden-

Chapman, Martin, & Kawachi, 2006), *structured/unstructured activities* (see Larson, 2000; Mahoney, Lord et al., 2005; Persson, Kerr, & Stattin, 2007), *supervised/unsupervised activities* (see Flannery et al., 1999; Mahoney, Lord et al., 2005), *formal/informal activities* (see Posner & Vandell, 1994), *free-time activities* (Bergen & Fromberg, 2009; McHale et al., 2001), *leisure time/leisure activities* (see Csikszentmihalyi & Larson, 1984; Persson et al., 2007), and other terms have been used to represent how, with whom, and where children and adolescents spend their time during the out-of-school hours.

Over the past few decades, some of the same terms have been used to convey different programs and activities, and different terms have been used to describe the same sorts of programs and activities, resulting in much conceptual confusion in research on OST. For example, Eccles, Barber, Stone, and Hunt (2003) characterized "extracurricular activities" as structured leisure activities, such as team sports, prosocial activities (e.g., church, volunteer in a community service), performing arts (e.g., school band), and academic clubs (e.g., debate, chess club). McHale and colleagues (2001) characterized "free-time activities" as sports activities, hobbies, playing with toys/games, reading, watching television, outdoor play, and hanging out with friends. However, Mahoney, Larson, and colleagues (2005) referred to "organized activities" as an umbrella term that includes any activity or program that has adult supervision and meets regularly outside of school hours. Hirsch and Wong (2005) described "after-school programs" using the following description:

> After-school programs take place on weekdays, after the end of the school day. Programs that are offered during weekends or the summer would not be considered to be after school. Some programs specialize in a particular area (e.g., academic tutoring), whereas others offer activities across multiple domains. Some after-school sites are based

> exclusively in the local community, and others are part of national organizations such as Boys & Girls Clubs, the Ys, or Scouts. (p. 364)

For the purpose of the present study, the same definition for after-school programs as described by Hirsch and Wong was used, but the term "out-of-school time" was used as an umbrella term to reflect the varied structured programs and free-time activities in which children participated from approximately 3:00 to 6:00 p.m. on school days.

In the present study, children's participation in OST settings was operationalized for two separate dimensions: participation in *structured activities* (i.e., educational lessons, art/music lessons, individual sports with a coach/instructor, and team sports with a coach/instructor); and participation in *free-time activities* (i.e., doing sports/exercise for fun, watching television, playing video/computer games, instant messaging, reading for fun, doing household chores, doing arts and crafts, and practicing a musical instrument). Note that this latter dimension is similar to the way in which McHale and colleagues (2001) defined free-time activities in their study of middle childhood.

There are several reasons structured programs have been recognized as a place for children and adolescents to become involved during out-of-school hours. Many studies have noted relationships between participation in structured programs and indicators of positive adjustment and behaviour. For example, researchers have found participation in structured programs/organized activities to be positively associated with self-esteem (Coleman, 1961; Grabe, 1981; Marsh, 1992; McGee et al., 2006; Zarrett et al., 2009); leadership skills, cooperation, and emotional stability (Hansen, Larson, & Dworkin, 2003; Cooper, 1969 as cited in Holland & Andre, 1987; Posner & Vandell, 1994); and prosocial behaviours, general self-concept, school belonging, and social competence (Schonert-Reichl & Buote, 2004).

Conversely, a handful of researchers have found negative outcomes from participation in structured programs. For example, researchers examining adolescents' participation in OST structured programs have shown that participation in sports and other competitive-based programs is associated with increased stress and anxiety (Csikszentmihalyi et al., 1993; Smoll & Smith, 1996), as well as increased alcohol use and other negative social behaviours (Eccles & Barber, 1999; Mahoney, 2000). Additionally, it has been argued that participation in OST structured programs with adult supervision decreases the opportunity for freely-chosen play, especially when there is an increase of technology-enhanced play material and a limitation of play space in the community and at home (Bergen & Fromberg, 2009).

Researchers examining OST structured programs only have begun to explore the complexities of children's experiences during the OST, including addressing the realistic, layered experiences during out-of-school hours (Fredricks & Eccles, 2010). For example, advancement in the field has directed researchers to investigate the pattern of children's involvement, which refers to the combination of participation in multiple OST settings that may include both structured programs *and* free-time activities (e.g., Bartko & Eccles, 2003; Fredricks & Eccles, 2006b; Weiss et al., 2005). Research regarding the patterns of participation in OST structured programs and/or free-time activities is addressed in the literature review that follows.

**Middle Childhood**

Middle childhood—the ages between 6 and 14 (Eccles, 1999)—is an important developmental period because it is a time in the life cycle in which children's personalities, behaviours, and competencies develop, which are considered to be foundational for success in adolescence and adulthood (Collins, 1984). The middle childhood years are a particularly sensitive period in the development of personal and social skills that influence learning,

leadership, and health habits that lead into adulthood (Lerner, Almerigi, Theokas, & Lerner, 2005; Roth & Brooks-Gunn, 2003a; Silliman, 2007). Although there is a plethora of both theory and research that identify early childhood and adolescence as important developmental periods in the life span (e.g., Lerner, 2005; Schroeder et al., 2009; Vandell, Henderson, & Wilson, 1988), the research on middle childhood is relatively meager. However, the extant research indicates middle childhood is an important developmental phase because it is a time when several competencies emerge (e.g., social skills, identity), which are necessary for successfully coping with upcoming challenges that unfold during adolescence and early adulthood (Blume & Zembar, 2007; Eccles, 1999). During this period, the positive functioning of children results from a complex interaction of personal and developmental characteristics, social and economic factors, and the physical environment (Larson, 2006).

**Positive Youth Development**

Over the last two decades, the positive youth development (PYD) perspective has emerged to become a leading perspective in the area of adolescent development that focuses on the positive attributes of youth, rather than the problems (Lerner, 2005; Lerner, Almerigi et al., 2005). Damon (2004) states that the PYD perspective, "aims at understanding, educating, and engaging children in productive activities rather than at correcting, curing, or treating them for maladaptive tendencies or so-called disabilities" (p. 15). This perspective shifts the focus of youth development from a deficit model to an asset/strengths-based model by viewing the positive characteristics of youths, and how youths influence, and are influenced by, community and other contextual factors (Damon, 2004; Lerner, 2005). Through this perspective, youths can exercise agency, as well as inform, the places, people, and policies that in turn impact their development (Damon, 2004). The PYD perspective emphasizes that all youths have the potential

for healthy growth if their strengths are aligned with interpersonal and institutional support (Lerner, 2005). For example, this shift in perspective allows youth-based programs to be designed to provide support and encouragement for children and adolescents to grow and to foster the social skills necessary to maintain a healthy adult lifestyle (Roth & Brooks-Gunn, 2003a, 2003b).

In general, structured programs have been identified as an optimal space for enhancing child and adolescent development (Durlak et al., 2010; HFRP, 2003). Yet, there is a relative scarcity of research that uses the PYD perspective to examine the relation between OST structured program participation and positive functioning during middle childhood (see Lerner, Lerner et al., 2005, for exception). This deficit in the literature is addressed in the current study by examining the patterns of children's participation during middle childhood in structured programs and in free-time activities in relation to indicators of positive functioning as conceptualized via the Five Cs of PYD (Lerner, Lerner et al.): competence, confidence, connections, character, and caring.

**Present Study**

Although a plethora of new studies has emerged over the past decade examining the ways in which children and adolescents spend their OST in relation to their positive functioning (see Durlak et al., 2010; Mahoney, Larson et al., 2005), the existing literature is limited in three important ways. First, a large number of researchers who study OST settings have focused on the structured programs in which *adolescents* participate during high school (e.g., Barber, Eccles, & Stone, 2001; Eccles & Barber, 1999; Fredricks & Eccles, 2010), and a minimal number of researchers have looked at the structured programs in which elementary school children participate, particularly during middle childhood (e.g., Lerner, Lerner et al., 2005; Posner &

Vandell, 1994; Shernoff, 2010). This may be due to the abundance of structured programs accessible to adolescents during high school (Fredricks & Eccles, 2006a) and the amount of discretionary time afforded to adolescents during out-of-school hours (Eccles & Barber, 1999). However, structured programs may be important during middle childhood because of the physical, cognitive, social, and contextual changes that occur during this developmental stage (Simpkins, Fredricks, Davis-Kean, & Eccles, 2006). Additionally, structured programs may help prevent some of the challenges children face as they reach adolescence (see Blume & Zembar, 2007; Shernoff, 2010), such as loneliness and peer isolation (Bohnert, Wargo Aikins, & Arola, 2013). Participation in structured programs during middle childhood may also have important implications for exposure to various opportunities once they reach adolescence (Scarr & McCartney, 1983 as cited in McHale et al., 2001).

Second, the majority of research in the area of OST settings has focused on participation in *structured programs* in relation to well-being based on the PYD perspective (Durlak et al., 2010; Linver et al., 2009; Zarrett et al., 2009). Yet, little is known of the ways in which participation in *free-time activities* relate to well-being based on a PYD perspective, particularly during middle childhood. Researchers who have examined children's and adolescents' participation in free-time activities have for the most part assessed activity participation in relation to physical health or healthy behaviours (e.g., Crocker et al., 2000; Harrell, Gansky, Bradley, & McMurray, 1997; Tremblay & Willms, 2003). Conversely, they have not assessed participation in free-time activities in relation to psychological and behavioural adjustment (e.g., school grades, conduct, depression symptoms; McHale et al., 2001). Moreover, research on free-time activities in the context of a PYD perspective is relatively scant (see Li, Bebiroglu, Phelps, Lerner, & Lerner, 2008 for exception). Because free-time activities are typically chosen by the

child, they may provide opportunities for the development of initiative, self-regulation, and social skills (Larson & Verma, 1999). Similarly, certain types of free-time activities (e.g., hobbies, arts and crafts, reading for fun) may promote positive adjustment in children by providing them with opportunities to develop skills and competencies (McHale et al., 2001).

Third, research in the area of OST settings primarily includes studies which have examined participation in structured programs only (Eccles & Barber, 1999; Feldman & Matjasko, 2005; Feldman & Matjasko, 2007; Flannery et al., 1999; Larson, 2000; McGee et al., 2006), participation in free-time activities only (Li et al., 2008; McHale et al., 2001; McHale et al., 2004), or have compared participation in structured programs *versus* free-time activities (e.g., Larson, 2000; Mahoney, Larson et al., 2005; Posner & Vandell, 1994). A small body of literature has emerged that includes research on the patterns of participation in a combination of structured programs *and* free-time activities (e.g., Bartko & Eccles, 2003). However, researchers who examine participation in both structured programs and free-time activities are scarce, particularly in relation to the Five Cs of PYD during middle childhood (e.g., Blume & Zembar, 2007; Eccles, 1999; Eccles & Roeser, 2009; Larson, 2006; Silliman, 2007).

Due to the limitations of previous research and the equivocal findings on adolescents' participation in structured programs in relation to well-being, the present study used a person-centered approach to investigate the ways in which patterns of children's participation in structured programs and free-time activities might be associated with the Five Cs of PYD in a community sample of fourth grade children. Taking a person-centered approach allowed for the identification of children who participated in the same structured programs and/or free-time activities by grouping them together based on profiles of participation in the same programs and activities (see Linver et al., 2009; Roeser & Peck, 2003). Roeser and colleagues (2002) have

suggested that a person-centered approach may tap into the characteristics of a group of individuals who participated in the same programs and/or activities. Alternatively, a variable-centered approach examines the relation between variables based on the whole sample (see Bartko & Eccles, 2003; Laursen & Hoff, 2006; Roeser et al., 2002). A variable-centered approach is commonly used in the research examining participation in OST as a way in which to identify the nature of the relationship between activity participation and various outcomes of interest.

Consistent with Lerner's (2005) conceptualization of PYD, indicating that focus should be placed on the strengths of youth, the present study was designed to expand current understanding of the pattern of participation in structured programs and free-time activities in relation to indicators of positive functioning during middle childhood. In particular, children's participation in structured programs and free-time activities were examined in relation to the Five Cs of PYD (i.e., competence, confidence, connections, character, and caring; Lerner, Lerner et al., 2005). The Five Cs of PYD used in the present study were operationalized in alignment with previous research (i.e., Pittman, Irby, Tolman, Yohalem, & Ferber, 2003; Zarrett & Lerner, 2008) and included academic self-efficacy and health competence (i.e., competence); general self-concept (i.e., confidence); connections to adults, and connections to peers (i.e., connections); prosocial behaviour (i.e., character); and empathy (i.e., caring). In the present study, I used a person-centered approach to examine participation in structured programs and free-time activities in relation to the Five Cs of PYD in a population-based sample of fourth grade children. In the present study, three research questions were examined: (a) What are the patterns of participation when structured programs and free-time activities are combined? (b) How will each profile group of children's participation in structured programs and/or free-time activities

compare to one another in relation to the Five Cs of PYD, and after controlling for individual-, family-, and neighbourhood-level characteristics (i.e., gender, language, family composition, and SES)? (c) Is there a difference between gender for each profile group and between SES for each profile group in relation to the Five Cs of PYD?

# CHAPTER 2

## Review of the Literature

The purpose of this literature review is to present information on the empirical and theoretical literature on participation in structured programs and free-time activities during middle childhood and adolescence. Four bodies of literature are reviewed. The first section begins with a review of the research on different types of OST structured programs and free-time activities in which children and adolescents participate. The second section explores the PYD perspective as a framework for OST programs and activities. The Five Cs of PYD (competence, confidence, connections, character, and caring) are addressed in relation to children's and adolescents' participation in OST structured programs and free-time activities. The third section provides a review of the research on children's and adolescents' patterns of participation in OST programs and activities. The fourth section discusses the research on differences in participation based on gender and SES. The final section outlines the purpose of the present study.

### OST Structured Program Participation

In recent years, a considerable amount of research has emerged exploring the relation of participation in structured programs or free-time activities to child and adolescent well-being. The following subsections include a review of the beneficial and detrimental outcomes with regard to different types of structured programs, such as sports and music lessons, and free-time activities, such as watching television and playing video games.

**Participation versus no participation in structured programs.** One way in which researchers have examined structured programs in relation to outcomes has been by comparing children and adolescents who participated in structured programs to those who have not participated in any structured programs (see Fredricks & Eccles, 2006b; Fredricks & Eccles,

2010; Linver et al., 2009, for studies that address this issue). The majority of researchers have not addressed the complex scheduling of children's and adolescents' out-of-school hours. The reality is that children and adolescents may not participate in any structured programs or, alternatively, they may participate in more than one structured program during the week, and even in the same day (Bartko & Eccles, 2003; Gilbert, 1999). Only a few researchers to date have examined youths' participation in multiple structured programs (e.g., Feldman & Matjasko, 2005; Linver et al., 2009; Zarrett et al., 2009). The majority of researchers examining OST programs have tended to dichotomize programs into two categories (e.g., supervised vs. unsupervised programs; Flannery et al., 1999; Larson, 2000; McGee et al., 2006), which excludes other activities that may not fit in either category (e.g., watching television, doing chores). For example, McGee and colleagues (2006) considered two broad types of structured programs from middle childhood to early adulthood that were grouped as "sports" (e.g., team or individual), and "cultural/youth" groups (e.g., music, dance, scouts, religious, or volunteer). The authors found that participation in either sports or cultural/youth groups decreased from middle childhood to adolescence, and participation declined further by late adolescence. The authors acknowledged that one of the limitations to their longitudinal study was due, in part, to their focus on youths' current participation in programs when conducting the interviews and not on the full history of involvement in various OST programs. They included that this may have impacted their findings due to an underestimation of participation.

Another example is by Mahoney, Schweder, and Stattin (2002) who assessed adolescents' participation in structured programs in relation to levels of depressed mood. They found that adolescents who participated in structured programs reported lower levels of depressed mood compared to adolescents who did not participate in structured programs.

However, not captured in the study are adolescents who may have been involved in other contexts during the out-of-school hours (e.g., job, babysitting, and self-care) that may have impacted their well-being (see Bartko & Eccles, 2003).

**Benefits from participation in structured programs.** The second way in which researchers have examined youths' participation in structured programs in relation to outcomes has been by solely identifying the benefits of participation in certain types of structured programs (e.g., see Holland & Andre, 1987; Mahoney, Larson et al., 2005, for reviews). For instance, researchers have shown that participation in structured programs (e.g., team sports, academic clubs) to be related to positive levels of academic performance (e.g., Marsh & Kleitman, 2002; Posner & Vandell, 1994), motivation (e.g., Csikszentmihalyi & Larson, 1984; Dawes & Larson, 2010; Larson & Kleiber, 1993), psychological functioning (e.g., Eccles & Barber, 1999; Dawes & Larson, 2010), and social competence (e.g., Fredricks & Eccles, 2010; Posner & Vandell, 1994; Shernoff, 2010).

Researchers who have studied adolescents' participation in structured programs (e.g., school sport teams, community clubs) often have found participation associated with many positive outcomes for adolescents, and have offered a perspective in which to understand the ecology of an OST setting (Mahoney, Lord et al., 2005). For example, findings from a longitudinal study by Persson and colleagues (2007) revealed that adolescents who participated and remained in structured programs (e.g., those with adult leaders, regular meetings) showed overall positive adjustment and well-being compared to those adolescents who switched to free-time activities (e.g., hanging out on the streets with no adult supervision). Further, the researchers found that adolescents who participated in structured programs experienced personal, social, and academic benefits.

Participation in constructive, organized activities during the high school years can also deter school dropout. For example, Mahoney and Cairns (1997) followed 392 students from 7th to 12th grade and interviewed the students about their participation in extracurricular activities. They found that those children and adolescents who dropped out of school reported participating in fewer extracurricular activities at all grade levels. Moreover, they found that during middle school, it was participation in athletic activities that differentiated dropouts from non-dropouts; those who did not drop out reported significantly more involvement in athletic activities than those who did drop out. Other research has found similar findings showing the benefits of sport participation in deterring school dropout as well as increasing the likelihood of college attendance (Holland & Andre, 1987; McNeal, 1995).

Furthermore, there is an extensive body of research that has shown that children and adolescents learn important personal and social skills through participation in OST structured programs (CASEL, 2003; Commission on Positive Youth Development, 2005; Shernoff, 2010). For instance, research has found that adolescents who participate in structured programs that focus on promoting intrinsic motivation as well as identifying achievable goals experience more positive outcomes, such as school engagement and social and academic achievement (Larson, 2000). In a longitudinal study, Gardner and colleagues (2008) found that adolescents who participated in structured programs for two years demonstrated more educational and civic (i.e., volunteering and voting) outcomes during young adulthood than adolescents who participated in them for only one year. Adolescents who participated more intensively (i.e., consistently involved for two years) also showed educational, civic, and occupational success during young adulthood. In general, participation in structured programs appears to counter time spent in delinquent behaviours or sedentary activities, such as watching television or playing video games

(National Research Council and Institute of Medicine, 2000 as cited in Zaff, Moore, Papillo, & Williams, 2003).

**Detriments from participation in structured programs.** Despite research findings indicating positive associations between well-being and participation in structured programs, research on participation in structured programs also has been linked to reports of delinquency and problem behaviours (e.g., Fauth, Roth, & Brooks-Gunn, 2007; Vandell & Corasaniti, 1990). Some studies found participation in structured programs—particularly team sports—to increase delinquency and drinking in adolescents (Barber et al., 2001; Eccles et al., 2003; Mahoney, 2000). Moreover, structured programs, such as team sports and music lessons, are not the only types of OST settings that children and adolescents experience. Other activities, such as doing sports/exercise for fun or computer use, may also show positive or negative outcomes (Li et al., 2008).

With a greater focus on participation in structured programs, concerns also have been raised regarding the number of structured programs in which youths participate (Luthar, Shoum, & Brown, 2006; Mahoney, Harris, & Eccles, 2006). For instance, media and books in popular culture (e.g., Gilbert, 1999; Harmon, 2010) often depict children and adolescents who participate in multiple structured programs, that is who are "overscheduled," as having high levels of stress and anxiety, and being sleep-deprived. Fredricks and Eccles (2006a) found a positive and significant curvilinear relationship between the number of structured programs (e.g., sports, academic clubs) and the level of risky behaviour of adolescents. That is, adolescents who participated in low (e.g., less than three) or high (e.g., more than nine) numbers of structured programs had higher levels of risky behaviour (e.g., skipping school, getting into fights) than adolescents who participated in a range of four to eight structured programs. However, research

findings consistently suggest more positive developmental outcomes for youths who participate in structured programs than those who did not participate in any structured programs (Gilbert, 1999; HFRP, 2006; Mahoney et al., 2006).

Other researchers emphasize the lack of discretionary time for involvement in unstructured free play because children and adolescents spend most of their OST participating in structured programs (e.g., music, dance, sports) where adults create the rules (Bergen & Fromberg, 2009). Free play may allow space for children and adolescents to learn negotiation skills on how to participate with others, whereas structured programs place youth together because of the nature of the activity (Bergen & Fromberg). Vandell and Corasaniti (1988) found participation in structured programs was associated with negative social, emotional, and academic performance when compared to time spent under mother's care or self-care. This study, however, was limited to representation of low-income and inner-city youths who reported structured programs as day care centers. The day care centers were noted as being designed for preschoolers, and thus were not appropriate for older children, which may have restricted opportunities for participation in more age-appropriate programs.

**OST Free-Time Activity Participation**

Although much of the research on OST settings has focused on the association between participation in structured programs and well-being in children and adolescents, there is an alternate body of research that has focused on the association between participation in free-time activities and well-being. Free-time activities are part of the reality of children's and adolescents' OST experiences (Li et al., 2008). Considering that approximately 25% to 40% of children's and adolescents' waking hours are discretionary, relatively little is known of the association between their choices for free-time activities and their academic, social, and emotional adjustment (see

Bartko & Eccles, 2003; Osgood, Anderson, & Shaffer, 2005). The majority of researchers examining children's and adolescents' participation in free-time activities, such as watching television and playing video games, have found high levels of participation to be associated with lower academic achievement and well-being (e.g., Bartko & Eccles, 2003; Li et al., 2008; Posner & Vandell, 1999) and higher delinquent behaviour (Fleming et al., 2008). However, allowing time for unstructured, free play during middle childhood may allow space for children to learn self-direction, self-organization, self-control, and ways to negotiate rules and boundaries with one another (Bergen & Fromberg, 2009). The following section expands on two types of free-time activities and how they may help or hinder children's and adolescents' well-being.

**Sedentary behaviours vs. physical activities.** Free-time activities—particularly sedentary activities (e.g., watching television, playing sedentary-type video games)—often have been examined in relation to health outcomes. Researchers in the United States (Harrell et al., 1997) examined the most common free-time activities of 2,200 third- and fourth-grade students in relation to cardiovascular disease and obesity. They found that boys most frequently reported playing video games, playing football, bicycling, watching television, and playing basketball, whereas girls reported doing homework, bicycling, watching television, dancing, and reading. Although the risk factors of cholesterol, blood pressure, skin-fold thickness, and body mass index were not significantly associated with total activity score, significantly more non-obese children reported higher frequency of participation in a vigorous physical activity than obese children.

Tremblay and Willms (2003) assessed organized and leisure sports, other physical activities, and sedentary behaviours in relation to body mass index of children aged 7 through 11. Their results showed both structured and leisure sports and other physical activities were

negatively associated with being either overweight or obese. Watching television and playing sedentary video games, however, were specified as risk factors for becoming overweight or obese. This study suggests that whether the activity is organized or leisure, what is important is the amount of physical movement during the activity that may help to offset the risk of becoming overweight. The Active Healthy Kids Canada Report Card (AHKC; 2013) states that research is needed to understand ways in which to reduce the amount of time spent on sedentary behaviours.

A recent review of Canadian children (ages 5 to 11 years) reported that children spend an average of 2.3 hours a day of screen time (e.g., combination of television, computer and video games) and an average of 5.3 hours a day of non-screen sedentary behaviours (i.e., sitting for prolonged periods of time such as doing homework; AHKC, 2013). These behaviours do not need to be completely omitted, but in most instances need to be minimized or reduced. Delving further into the debate between physical activity and physical inactivity during the out-of-school hours, sports participation has become a research focus in relation to healthy behaviours (e.g., Crocker et al., 2000; Pate, Heath, Dowda, & Trost, 1996).

Research on adolescents and healthy behaviours is guided by the idea that time spent in exercise is time away from negative health behaviours, including sexual activity, substance abuse, and watching television (Collingwood, Reynolds, Kohl, Smith, & Sloan, 1991). Recent data indicate that more than half of Canadian youths (ages 12-19) are at least moderately active (Canadian Community Health Survey, 2009). The latest report from the AHKC Report Card (2013) states that only 7% of children (ages 5 – 11 years) are maintaining an average of 60-minutes of daily physical and energetic play. A number of researchers suggest the importance of youth involvement in regular physical activity for establishing positive activity habits in the future (e.g., AHKC, 2013; Kemper, de Vente, van Mechelen, & Twisk, 2001; Malina, 1996;

Telama, Yang, Laakso, & Viikari, 1997). Although it is not as common for children in the middle years to be involved in sports at the same level of intensity as adolescents, the benefits of participating in a physical sport remains developmentally valuable (Marsh & Kleitman, 2003).

**Positive Youth Development Perspective**

Damon (2004) states that PYD is an approach that "focuses on every child's unique talents, strengths, interests, and future potential" (p. 13). The purpose of PYD is to recognize and assess what is important in the lives of children and adolescents in order to accurately capture their full potential to thrive as productive and satisfied members of society, not to merely examine anything that appears beneficial for them (Damon, 2004). Researchers and practitioners have described PYD in various terms including, but not limited to, Developmental Assets,[1] strengths, protective factors, and developmental nutrients (see Benson et al., 2006). The view of positive development for youth, however, can vary according to different criteria (see Roth & Brooks-Gunn, 2003a, 2003b). For instance, researchers have identified successful youths as those with moral, spiritual, civil, and cultural qualities (Pittman et al., 2003), or those with competencies in physical, intellectual, psychological, emotional, and social domains (National Research Council, 2002). Because of the lack of consensus on one description, Benson and colleagues (2006) reviewed numerous definitions and yielded similarities that led to the following five core constructs:

- developmental contexts, such as places, settings, ecologies;
- relationships in the community that have the potential to generate supports, opportunities, and resources;

[1] The Developmental Assets was created by the Search Institute that has identified 40 assets based on positive experiences and interactions that help influence youth's development. For more information see, http://www.search-institute.org.

- two aspects of the person that include the nature of the child and especially the inherent capacity to grow, thrive, and actively engage with supportive contexts;
- the child's developmental strengths that include skills, competencies, values, and dispositions important for successful engagement in the world; and
- two complementary constructs of developmental success that include the reduction of high-risk behaviours and the promotion of thriving.

The five core constructs are bidirectional and illustrate the person-ecology interactions that have been examined through research on PYD (Benson et al., 2006). That is, the context and the person matter, and the context in which children and adolescents live can be changed to enhance their developmental success.

Aligning with the five core constructs compiled by Benson and colleagues (2006), several authors have identified and used concepts known as the Five Cs of PYD that describe the characteristics in youth that can be promoted through supportive people and environments (Eccles & Gootman, 2002; Lerner, 2004, 2005; Lerner, Fisher, & Weinberg, 2000; Lerner, Lerner et al., 2005; Roth & Brooks-Gunn, 2003a, 2003b; Zarrett & Lerner, 2008). Lerner, Lerner, and colleagues (2005) found evidence that the Five Cs exist as latent constructs that could be labeled as PYD. The researchers conducted a longitudinal investigation to identify the individual and ecological bases of positive, healthy development in children ($N$ = 1,700 fifth graders). The authors' overall goal was to understand and establish empirical evidence of the latent and manifest variables that comprise PYD and propel youths toward a healthy developmental trajectory. An extensive literature review was conducted to identify a set of measures to form indicators for each of the Five Cs, and was revised to better represent the constructs. Results from structural equation modeling procedures indicated that PYD may be

represented by the Five Cs. Lerner (2004) has posited that when youths demonstrate use of the Five Cs across their development, they are considered to be thriving in life as productive and satisfied members of society. Lerner, Lerner, and colleagues (2005) identified the Five Cs as:

- Competence:
    - Positive view of one's actions in specific areas, including social, academic, cognitive, health, and vocational:
        - social competence refers to interpersonal skills (e.g., conflict resolution);
        - cognitive competence refers to cognitive abilities (e.g., decision making);
        - academic competence refers to school performance as evidenced, in part, by school grades, attendance, and test scores;
        - health competence includes using nutrition, exercise, and rest, to keep oneself fit; and
        - vocational competence includes work habits and explorations of career choices.
- Confidence:
    - An internal sense of overall positive self-worth and self-efficacy that refers to one's global self-regard, as opposed to domain specific beliefs.
- Connection:
    - Positive bonds with people and institutions that are reflected in exchanges between the individual and his or her peers, family, school, and community in which both parties contribute to the relationship.
- Character:

    - Respect for societal and cultural norms, possession of standards for correct behaviours, a sense of right and wrong (i.e., morality), and integrity.
- Caring:
    - A sense of sympathy and empathy for others.

A sixth C, identified as *Contribution*, refers to contributing to society as youth reach adulthood (Pittman et al., 2003), which Lerner (2004) has argued is an outcome of encompassing the Five Cs, rather than its inclusion as the sixth C.

Although Lerner, Lerner, and colleagues (2005) originally operationalized the Five Cs of PYD as described above, other researchers have made slight modifications to their operationalization of the Five Cs. In the present study, the Five Cs of PYD were operationalized in accordance with definitions put forth by Pittman and colleagues (2003) and Zarrett and Lerner (2008), which included the following indicators of positive functioning: (a) *competence* in academic areas (i.e., academic self-efficacy) and health (i.e., perceived overall health); (b) *confidence* in oneself, including a positive self-identify (i.e., general self-concept); (c) *connections* to parents/adults at home, to unrelated adults in school and in the neighbourhood/community, and to peers (i.e., peer belonging, friendship intimacy); (d) *character* or possessing standards for correct behaviours (i.e., prosocial behaviour); and (e) *caring* for others (i.e., empathy). To my knowledge, there is no single survey that directly measures the Five Cs of PYD. Rather, researchers report using various measures that encompass constructs that represent the Five Cs. The current study followed a similar approach by using a pre-existing survey that contained constructs that represented the Five Cs of PYD.

Lerner (2005) states that, "… if young people have mutually beneficial relations with the people and institutions of their social world, they will be on the way to a hopeful future marked

by positive contributions to self, family, community, and civil society. Young people will thrive" (p. 12). For instance, using a PYD perspective, participation in structured programs has been associated with the potential to promote positive developmental outcomes (Larson, 2000). Additionally, youth development programs that emphasized personal, social, and life skills were specifically related to one or more of the Five Cs (e.g., Lerner, Lerner et al., 2005; Linver et al., 2009; Zarrett et al., 2009), suggesting further exploration in the types of structured programs that may be associated with the Five Cs of PYD. It is important to note that different structured programs may vary in the opportunities they provide for children, which can, in turn, lead to different experiences and consequently promote different aspects of the Five Cs of PYD (Larson, Hansen, & Moneta, 2006; Linver et al., 2009; Roth & Brooks-Gunn, 2003a). The following section explores the various structured programs—and a few free-time activities—found to be associated with one or more of the Five Cs.

**OST Structured Programs and Free-Time Activities in Relation to the Five Cs of PYD**

The following sections discuss the existing literature on structured programs and free-time activities that are associated with each of the Five Cs of PYD, specifically outcomes related to academic self-efficacy and overall health (i.e., competence); general self-concept (i.e., confidence); connections with adults and connections with peers (i.e., connections); prosocial behaviour (i.e., character); and empathy (i.e., caring). Although a few studies have examined participation in free-time activities in relation to positive adjustment, only a handful of studies have directly assessed free-time activities from a PYD perspective (e.g., Li et al., 2008). Rather, the literature on free-time activities has primarily focused on associations to negative outcomes (see above). Because of the general paucity of research examining the link between free-time activities and adjustment, the literature that is reviewed in the following section is mainly

comprised of research examining the association between participation in structured programs and positive functioning. It is also important to note that the majority of this research has been conducted with adolescent samples, and there are relatively few studies with school-aged children.

**Competence.** As described above, in the present study competence was operationalized to include both academic self-efficacy and perceived overall health.

***Academic self-efficacy.*** Other than achieving high marks in school, youths' perception of their ability to do well academically is important to consider for the positive development of youth (see McHale et al., 2001 for suggestions on assessing competence, self-discipline, and encouragement from others). Self-efficacy refers to the expectation or belief that one is willing and able to try at tasks both simple and challenging, whereas self-concept refers to how one perceives him/herself (Ames, 1990). Larson (2006) posits that although youths may be motivated to learn, they may not have the personal skills to maintain their efforts. Structured programs—especially those that focus on life skills (i.e., the ability to cope with challenges, form healthy relationships, adopt healthy behaviours, or learn to utilize social networks; Hamburg, 1990)—can enhance learning by providing youths with opportunities that may not be accessible through school (Dubas & Snider, 1993). Furthermore, Fredricks and Eccles (2006a) examined participation in multiple structured programs in relation to academic adjustment and self-concept of adolescents and found that participation in four to eight structured programs during high school was associated with high academic adjustment (e.g., school belonging, high marks) and psychosocial competencies (e.g., self-worth). The studies highlighted above illustrate the importance of participation in structured programs for providing opportunities to enhance

academic skills, motivation, and competencies. However, studies on benefits of free-time activities in relation to academic self-efficacy were not found.

***Perceived overall health.*** The World Health Organization (2009), as stated in its constitution, defines health as "a state of complete physical, mental and social well-being, and not merely the absence of disease" (para. 1). In the area of youth health, researchers have begun to move beyond a myopic focus on disease reduction to include a focus on wellness (Mitic & Leadbeater, 2009). McLoughlin and Kubick (2004) refer to the term "wellness" as the improvement of mental and physical health as well as the reduction of disorders and disease. Root-Wilson (2009) posits that it is just as important to examine the behaviours of youths that promote health as it is to examine the factors that demote health. Research on health also has been viewed to include indicators of both physical (e.g., healthy diet, exercise) and mental health (e.g., self-esteem, optimism; Miller, Gilman, & Martens, 2008; Raphael, 1996; Torres & Fernandez, 1995). The term "health-enhancing behaviour" or "healthy behaviour" is most commonly used in the literature and is used here interchangeably to reflect the extant literature.

Health-enhancing behaviours also have been linked to participation in organized, structured programs, with the majority of studies indicating that youths who report participation in structured programs are more likely to also engage in healthy behaviours in contrast to nonparticipating youths (e.g., Miller et al., 2008; Rainey, McKeown, Sargent, & Valois, 1998; Torres & Fernandez, 1995). For example, Harrison and Narayan (2003) examined four separate groups of ninth graders: (a) participants of sports only, (b) participants of other programs without sports, (c) participants of both sports and other programs, (d) and participants of no sports or programs. The authors found that those adolescents who reported being involved in sports and other structured programs, such as band, clubs, or volunteer work, were more likely to exercise,

do homework, drink milk, have a healthy self-image, and were less likely to experience emotional distress, express suicidal behaviour, and other maladaptive behaviours in comparison to adolescents who reported no involvement in any sports or structured programs. The studies mentioned above demonstrate the importance of participation in structured programs to help maintain healthy habits, with participation in sports revealing the most health benefits.

In regards to physical activity in general, researchers based in Canada sought to determine the relationship between physical activity and physical self-perception to gain a better understanding of physical activity behaviour in children and adolescents ages 10 to 14 (Crocker et al., 2000). The researchers found boys to be more physically active than girls. Boys also had a higher perception of strength and sport competence than girls. Crocker and colleagues' results raise concern of lower participation in physical activities for girls because physical activity in childhood and adolescence may reduce the risk of health problems during adulthood. The Centers for Disease Control (2005) confirm that in order to achieve short- and long-term health benefits that include physical and mental health, both youths and adults need to maintain regular physical activity. Overall, the studies highlighted above illustrate the importance of participation in a program or activity that includes physical activity (e.g., sports) for opportunities to enhance healthy behaviours and health competence.

**Confidence (general self-concept).** Confidence, which is also defined as self-esteem in the PYD framework (Theokas, Lerner, Phelps, & Lerner, 2006), is important for positive development across childhood and adolescence (Pittman et al., 2003). Marsh and Craven (1997) conceptualize self-esteem as a multidimensional construct, comprising social, physical, and cognitive dimensions. Although self-esteem is often considered to be situated under the larger framework of self-concept (Campbell, 1990; Epstein, 1973), self-concept and self-esteem often

have been used interchangeably in the literature (Shavelson, Hubner, & Stanton, 1976). Self-esteem has been considered to be important during middle childhood, with research linking low-self-esteem to more time spent on sedentary behaviours rather than in physical activities (Biddle & Asare, 2011), and excessive time spent watching television (Iannotti, Kogan, Janssen, & Boyce, 2009).

Researchers also have consistently found a link between self-confidence and participation in structured programs. For example, participation in constructive, organized programs and positive relationships to peers, family, neighbours, and significant adults (e.g., teachers, coaches) have been shown to contribute to confidence in children and adolescents (Pittman et al., 2003). Similarly, Larson, Hansen, and Moneta (2006), in their research examining different developmental experiences in relation to various types of extracurricular involvement in a sample of 2,280 $11^{th}$ graders, found that adolescents in faith-based programs, as opposed to adolescents in sports, arts, and service programs, reported higher rates of positive experiences that supported the positive development of identity, emotional regulation, and interpersonal skills. Larson and colleagues also found that adolescents reported significantly more positive developmental experiences when participating in any of the structured programs that were assessed (e.g., faith-based programs, sports, arts programs) in comparison to their class time in school.

Williams and McGee (1990) examined differences between adolescent boys and girls on their self-perceived strengths (e.g., self-esteem, self-efficacy) in relation to physical activity participation. They found that boys perceived themselves as good at sports, confident, popular, having lots of hobbies, and being attractive, with their strengths dependent on parental, peer, and school attachments, part-time work, and the amount of physical activities in which they

participated. Girls, in contrast, perceived themselves as reliable, kind, independent, and affectionate, with their strengths dependent on parental attachment, and the amount of physical activities in which they participated. In their study, Williams and McGee highlighted how adolescents perceive their strengths in association with the amount of physical activities in which they participate. The studies highlighted above illustrate the importance of participation in structured programs for providing opportunities to enhance general self-concept. As noted earlier, research on free-time activities was based on comparisons to structured programs with no studies found linking free-time activities to high levels of general self-concept.

**Connection.** In the following section, a review of research linking participation in structured programs and free-time activities to connections to unrelated adults, connections to parents/adults at home, and connections to peers (i.e., peer belonging and friendship intimacy) is put forth.

***Connection to unrelated adults.*** In general, research is in concert in suggesting that one important factor in protecting youths with multiple risks and enhancing healthy development is through a relationship with at least one caring, unrelated adult (see Scales & Gibbons, 1996; Wynn, Costello, Halpern, & Richman, 1994). Unrelated adults can include teachers, neighbours, youth workers, clergy, coaches, or other adults who may interact with youths more frequently than adults in the extended family (Scales & Gibbons, 1996). During middle childhood, relationships with unrelated adults in the school and community can promote children's social and emotional well-being (Schonert-Reichl, 2011a). A potential benefit of participation in structured programs is the increased opportunity for interactions with one or more adult who could serve as a role model, mentor, or friend (Dubas & Snider, 1993; Hirsch & Wong, 2005).

In a longitudinal study using the PYD perspective, Scales, Benson, and Mannes (2006) investigated adolescents' involvement in religious organizations, youth programs, and volunteer work to assess the frequency and quality of relationships with unrelated adults. The authors found that time spent in religious organizations, youth programs, and volunteer work were significantly associated to higher levels of interactions with unrelated adults who provided support, empowerment, and boundary-setting assets. These results suggest that community-based structured programs may offer quality interactions between youths and unrelated adults. Similarly, Hansen and colleagues (2003) suggested that youth programs in the community could be settings in which positive connections to unrelated adults might occur.

***Connection to parents/adults at home.*** McGee and colleagues (2006) examined participation in structured programs (e.g., sports, cultural/youth groups) from childhood through adolescence and found that participation was significantly and positively related to adolescent attachment to parents, friends, and the school/workplace. In a study examining structured programs and free-time activities, Persson and colleagues (2007) examined adolescents' feelings of home life and interactions with parents in relation to participation in structured programs (i.e., programs with adult leaders, regular meetings, and skill-building activities) and free-time activities (i.e., activities that are unstructured, unsupervised, and with peer-oriented activities). The authors found that adolescents who participated in structured programs fared better in regard to positive thoughts about the home life and interactions with parents compared to adolescents in free-time activities. However, McHale and colleagues (2001), in their research examining the association between free-time activities and adjustment during middle childhood, found that children who spent their free time with parents and non-parental adults showed more positive

adjustment, including higher school grades and lower levels of conduct problems and depressive symptoms, than those children who either spent time alone or unsupervised with peers.

Overall, the studies highlighted above illustrate the importance of participation in structured programs for providing opportunities to promote connections with adults. Research on free-time activities was mixed, revealing positive adult relationships when adolescents participated in structured programs rather than free-time activities. However, free-time activities that involved time with adults showed beneficial outcomes compared to free-time activities spent alone or with peers.

***Connection to peers (peer belonging and friendship intimacy).*** The term "peer relationships" (e.g., Armsden & Greenberg, 1987; Bukowski, Brendgen, & Vitaro, 2007; Ladd, 1999) or "peer attachments" (e.g., Armsden & Greenberg, 1987; Nada-Raja et al., 1992) is frequently used to describe connections to peers in the research. In the present study, two dimensions of peer relationships were examined. The first dimension, "peer belonging," refers to feeling a part of a group of peers (e.g., Baskin, Wampold, Quintana, & Enright, 2010; Osterman, 2000). The second dimension, "friendship intimacy," refers to having at least one friend in whom one can confide (e.g., Levy-Tossman, Kaplan, & Assor, 2007; Zarbatany, McDougall, & Hymel, 2000). Children and adolescents who participate in structured programs have opportunities to create and build positive peer relationships (Eccles & Barber, 1999; Fredricks & Simpkins, 2013). The past decade has seen a growing interest in examining the association between structured programs and peer relationships (e.g., Barber, Stone, Hunt, & Eccles, 2005; Fredricks & Simpkins, 2013).

During middle childhood, children spend less time with parents and more time with peers; hence, feeling a sense of belonging to a peer group and having at least one close friend in

whom one can confide becomes increasingly important (Buhrmester & Furman, 1987). Youths' perception of quality friendships is also particularly important for development and school adjustment (Ladd, Kochenderfer, & Coleman, 1996). Peer relationships play a critical role in child development (Harris, 1995). Bukowski and colleagues (2007) explain that through peer relationships, children are able to experience certain freedoms that are rarely achieved within parent-child relationships. Further, it is during peer-to-peer interactions that children are able to express opinions, negotiate ideas, and discuss perspectives. Researchers have recognized that boys and girls in the middle years show differences within the relationship context: girls are more likely to be involved in intimate friendships with a few close friends whereas boys are more likely to be involved in larger friendship groups (Degirmencioglu, Urberg, Tolson, & Richard, 1998; Maccoby, 1990).

Mahoney, Lord, and colleagues (2005) compared obese children to non-obese children over a three-year span (ages 4 – 8 years) in regards to structured program participation and peer acceptance within the program. The authors found that both obese and non-obese children who participated in structured programs showed significant increases in peer acceptance over time. That is, just as the non-obese children, obese children felt accepted and felt that they belonged as part of a group in the program. Structured programs offer a possible setting for allowing children to feel accepted, as opposed to other contexts that may not offer opportunities for acceptance or belongingness.

It is the peers in the classroom, on the playground, and at social gatherings that inform a youth of how well he/she fits in (Sleek, 1998). The interactions among peers—whether positive or negative—create a norm for youths to internalize and understand the hidden rules and expectations in which to behave (Harris, 1998). It is those behaviours outside the home that

sustain through the developing years and well into adulthood (Harris, 1998). Ladd and colleagues (1996) describe that it is the bonding among peers (particularly in schools) that is likely one of the more important factors for social and emotional development and competence. Persson and colleagues (2007) found that adolescents who switched from structured programs (e.g., programs with adult leaders, regular meetings) to free-time activities (e.g., hanging out on the streets, unsupervised and peer-oriented activities) were less likely to have peers or friends in structured programs in contrast to peers who remained involved in structured programs. Youths at high risk for delinquent behaviours are especially likely to benefit from participation in structured programs because such experiences afford them the opportunity to be exposed to many positive attributes of programs, including interactions with other peers, following rules, and maintaining a regular schedule (Oman, Vesely, & Aspy, 2005).

Contrary to the positive relationships associatied with participation in structured programs, a study by Hansen and colleagues (2003) found that adolescents did not experience structured programs as a place for developing relationships with, and understanding, peers from diverse backgrounds. In a qualitative study, Dworkin and Larson (2006) conducted focus groups with adolescents (ages 14 – 18 years) to explore positive as well as negative experiences in relation to participation in structured programs. They found that the most frequent type of negative experience for adolescents in structured programs involved peers and peer-group dynamics. Adolescents reported that program participants who took on a leadership role were likely to show authoritarian tendencies and aggressive behaviours toward their peers that undermined the activity or sport. Moreover, adolescents reported that peers formed cliques and exclusive friendship groups, which made interactions and the sense of belonging difficult. The authors indicated that aversive behaviours may have stemmed from the nature of the activity or

sport (e.g., level of competitiveness needed to participate), or that some programs may bring adolescents together in close proximity when they would otherwise not interact with one another in different contexts. Taken together, it appears that research on structured programs and connection to peers (peer belonging and friendship intimacy) has revealed mixed findings with both positive and negative experiences with peers in OST structured programs.

**Character (prosocial behaviour).** For decades, a major focus of developmental research has been on exploring those factors that forecast childhood maladjustment, aggression, and delinquency (e.g., Fraczek & Zumkley, 1992; Socolar, 1997). In recent years, however, there has been a gradual shift in psychology from a focus on negative factors (e.g., aggression, psychopathology) toward a focus on positive dimensions of adjustment, including prosocial behaviours such as helping and cooperation (e.g., Lerner, 2005; Lerner, Lerner et al., 2005; Seligman & Csikszentmihalyi, 2000; Wentzel, Filisetti, & Looney, 2007). Prosocial behaviour reflects to characteristics of cooperativeness, helpfulness, sharing, and being empathic (Caprara, Barbaranelli, Pastorelli, Bandura, & Zimbardo, 2000). Caprara and colleagues (2000) conducted a longitudinal study investigating both prosocial and aggressive behaviour (i.e., verbal and physical aggression) in early childhood as predictors of academic achievement and peer relations five years later (during adolescence). The authors found prosocial behaviour to have a strong positive impact on academic achievement and peer relations during adolescence, whereas early aggression showed no significant impact on either outcome.

Research has demonstrated a positive link between participation in structured programs and psychosocial adjustment and between structured programs and social skills (Darling, Caldwell, & Smith, 2005). Zaff and colleagues (2003), for instance, investigated adolescents' participation in structured programs longitudinally to determine if participation predicted

multiple positive outcomes in adulthood, such as attending college and volunteering for community or religious organizations. Their results indicated that adolescents who consistently participated in structured programs (e.g., sports, religious groups, community clubs) from grade 8 through grade 12 were more likely to have higher academic achievement in high school and more prosocial behaviours during young adulthood.

Similarly, Morris and Kalil (2006) found that children's participation in three types of structured programs (sports, lessons, and clubs) was found to be associated with positive benefits. In particular, children who reported participation in at least one of the three programs scored higher on school achievement and prosocial behaviour than children who did not participate in any program. Similarly, in their study of adolescents, Hansen and colleagues (2003) found that participation in other types of structured programs (e.g., sports, academic, and leadership programs) was associated with dimensions related to prosocial behaviours, such as initiative, identity exploration and reflection, emotional learning, developing teamwork skills, and forming ties with community members. Taken together, research tends to show that children and adolescents who participate in structured programs demonstrate higher rates of prosocial behaviour than those who do not.

**Caring (empathy).** Empathy is described as the ability to perceive and feel others' needs, experiences, interests, and viewpoints (Lizarraga, Ugarte, Cardelle-Elawar, Iriarte, & Baquedano, 2003). Researchers have identified empathy as having an affective component (i.e., reaction to another person's emotional experience), and a cognitive component (i.e., perspective-taking; putting oneself in another person's place; Davis, 1980, 1983b; Decety & Jackson, 2004; Schonert-Reichl, 2011b). In the present study, empathy was operationalized in regards to the affective component.

Empathy has been found to promote the formation and maintenance of friendships and social relationships (Baron-Cohen & Wheelwright, 2004; Hay, 1994; Smith, 2009) and to be closely linked with other social constructs, including social and emotional intelligence, prosocial behaviours, and altruism (Batson, Duncan, Ackerman, Buckey, & Birch, 1981; Brems & Sohl, 1995; Delič, Novak, Kovačič, & Avsec, 2011; Eisenberg et al., 1987; Schonert-Reichl, 2011b; Wentzel et al., 2007). A body of literature has positively linked empathy to participation in OST structured programs such as youth development programs, sports, music, and arts (e.g., Billig, 2000; Dworkin, Larson, & Hansen, 2003; Gilman, 2001; Marsh, 1992). In general, youth development programs have been known to help children and adolescents become caring individuals, and develop skills, responsibility, and positive health habits (Networks for Youth Development, 1998). For example, Dworkin and colleagues (2003), in their study on focus groups of adolescents' experiences in extracurricular and community-based activities, found that adolescents in extracurricular and community-based activities reported increased empathy and understanding necessary for perspective-taking as an outcome of their participation.

Sports also have been identified as one type of structured program for children and adolescents that can provide an environment for developing interpersonal skills, such as self-control, cooperation, empathy, responsibility, and assertion (Côté, 2002). Research has shown that participation in sport programs can lead to negative outcomes, such as high levels of stress and pressure (Wankel & Mummery, 1990), and even acts of aggression (Gardner & Janelle, 2002). However, Fraser-Thomas and colleagues (2005) make the case that sport programs that include a developmentally appropriate design and supportive child-adult relationships with parents or coaches will lead to positive sport experiences that enhance youths' competence, confidence, connections, compassion, and character.

The studies highlighted above illustrate the importance of participation in structured programs for providing opportunities to enhance empathy. However, no studies were found linking free-time activities to empathy.

**Patterns of Participation in OST Programs and Activities**

Taken as a whole, studies on OST structured programs and free-time activities illustrate the diversity in children's and adolescents' OST experiences. The extant literature also demonstrates the limitations and challenges of researching OST environments (e.g., Bohnert, Fredricks, & Randall, 2010; Fredricks & Eccles, 2010; Linver et al., 2009; Posner & Vandell, 1999; Shanahan & Flaharty, 2001; Zarrett et al., 2009). Some of the challenges involve distinguishing the types of experiences children and adolescents have, establishing how to measure their experiences, and understanding the influence of contextual factors, such as families, neighbourhoods, and schools (Posner & Vandell, 1999). In general, studies on the patterns of participation in OST structured programs show that the most beneficial outcomes for children and adolescents are associated with participation in more than one OST structured program (e.g., Bartko & Eccles, 2003; Cooper, Valentine, Nye, & Lindsay, 1999; Fredricks & Eccles, 2006a; Mahoney, Lord et al., 2005; Morris & Kalil, 2006).

A recent emergence of research on the patterns of participation have revealed new findings on the experiences of children and adolescents, showing sports to be the most popular structured program (e.g., Linver et al., 2009; Mahoney, Cairns, & Farmer, 2003; Zarrett et al., 2009). For instance, Zarrett and colleagues wanted to differentiate the intensity and breadth of structured programs for fifth- to seventh-grade children by using a blend of variable- and pattern-centered analyses. The authors claimed that children who spent time in more than one structured program may have fared better developmentally in comparison to children who spent less time in

structured programs. Their results showed that the most positive outcomes came from children who participated in sports in combination with other structured programs. That is, children who participated in a sport, including other youth development programs (e.g., school clubs, performing arts) were more likely to exhibit positive youth development in contrast to children who were highly engaged in all available programs (i.e., sports, youth development programs, academic clubs, performing arts, arts program, volunteer, religion group, and work).

In a similar study, Linver and colleagues (2009) examined whether adolescents fared better developmentally when participating in sports along with a range of other types of structured programs, such as school or community groups or volunteer programs. They used a person-centered approach and created profiles of involvement using cluster analyses and examined the association of each grouping of programs to the Five Cs of PYD based on constructs and items retrieved from a pre-existing dataset that included children and adolescents' responses on the Child Development Supplement measures (parts I and II). A representative U.S. sample of 1,711 adolescents between the ages of 10 and 18 years was assessed. The authors reported five profile groups (i.e., clusters) that displayed adolescents in a sports cluster, sports plus other programs (e.g., school or community groups, and volunteer programs), school-based programs, religious cluster, and low involvement cluster. Regression analyses were conducted to compare the sports cluster to the remaining four clusters after controlling for demographic variables and individual (i.e., child takes initiative), family (i.e., orderly home environments), and neighbourhood (i.e., urban/rural environment) characteristics. The authors found that adolescents who participated in a sport plus one or more structured programs showed the most associations to the Five Cs of PYD in comparison to adolescents who participated in only a sport or in minimal to no other programs.

Also taking a person-centered approach, Bartko and Eccles (2003) simultaneously examined a range of structured programs and free-time activities in relation to psychosocial indicators during adolescence. The authors acknowledged that knowing only about structured programs provided a limited view of adolescents' OST in relation to their academic, social, and emotional lives. Assessing 1,004 adolescents at the start of their last year of secondary school (16 to 17 years of age), cluster analysis was used to classify adolescents based on the pattern of their reports of structured programs and free-time activities across 11 program/activity domains. The 11 programs and activities included the following: sports, reading for pleasure, homework, chores, time with friends, watching television, school clubs, community clubs, volunteering, religion, and paid work. These activity domains were assessed with cluster analysis that resulted in six profile groups: sports group, school-based programs group, uninvolved group, volunteer-based programs group, high involved group, and work/employment group. Adolescents reported their participation in each activity on a scale ranging from *less than once a month* to *usually every day*. Bartko and Eccles (2003) found that adolescents in the high involved group (those with high levels of involvement in structured programs and free-time activities) as well as those adolescents in the school group (i.e., those who reported high levels of involvement in structured programs related to school and fewer free-time activities) showed better outcomes on all indicators of psychosocial adjustment (i.e., academic performance, problem behaviour, and mental health). Adolescents in the uninvolved group had the lowest level of psychosocial adjustment. Taken together, the findings from Linver and colleagues (2009) and from Bartko and Eccles (2003) highlight the importance of examining profiles of participation in both structured programs and free-time activities to provide a more holistic perspective on the effects of program involvement on adolescents' psychological, social, and emotional well-being.

The studies mentioned in this section refer to the variability of program participation and point to the need for future research to better understand the *patterns* of OST structured program and free-time activity participation, and how the co-occurrence of programs and activities may play a role on positive functioning during middle childhood (e.g., Bartko & Eccles, 2003; Feldman & Matjasko, 2007; Theokas et al., 2006; Zarrett et al., 2009). These studies also highlight the need to categorize the co-occurrence of OST programs and activities according to participants' reports and not by a-priori categories labeled as program participation versus no participation (e.g., Feldman & Matjasko, 2007; Fredricks & Eccles, 2010; Linver et al., 2009; Mahoney & Cairns, 1997). That is, the majority of studies categorized participants as participating in one or more program versus participating in no program, suggesting a dichotomy that youths either participate or do not participate in programs (see Fredricks & Eccles, 2010; Shernoff, 2010).

The current study expanded on previous literature (e.g., Bartko & Eccles, 2003; Linver et al., 2009; Zarrett et al., 2009) in three important ways. First, the current study addressed the variability of OST settings by taking a person-centered approach to examine children's patterns of participation in a combination of structured programs *and* free-time activities. Second, in contrast to the predominant focus in previous studies examining participation in OST settings with adolescent samples, the participants in the present study were elementary school-aged children (fourth graders). Third, the current study used a population-based sample and hence represents children's participation in OST settings across an entire population of fourth grade children within a large school district in the western region of Canada.

## Gender and SES Differences in Participation

There is relatively meager research that has examined how gender and SES interact with OST structured program and free-time activity participation in relation to positive functioning during childhood and adolescence (Mahoney, Larson et al., 2005). The following two subsections provide literature on gender differences in OST programs and activities, and SES differences in OST programs and activities.

**Gender differences in OST program and activity participation.** Researchers have suggested that gender plays a role in the type of programs and activities in which children may participate (e.g., McHale et al., 2004). Choices in sex-typed activities may be based on encouragement or discouragement from parents and other adults and peers that may shape children's thoughts and choices about gender roles and involvement in certain types of programs or activities. McHale and colleagues (2004) assessed the type of programs in which boys and girls (ages 10-12 years) participated, and found that boys reported more involvement in sex-typed activities (i.e., activities involving more boys) than girls, indicating the role that gender plays in the type of programs and activities in which children participated. Eccles and colleagues (2003) found adolescent girls were more likely than boys to be involved in school clubs and organizations.

In regard to gender differences in participation and positive functioning, Fredricks and Eccles (2006b) found interaction effects between gender and OST structured program participation. Specifically, adolescent boys who participated in athletics showed significantly lower externalizing behaviours than boys who did not participate in athletics. However, girls who participated in athletics demonstrated no significant differences in externalizing behaviour

than the girls who did not. This prior research provides support for the exploration of gender differences in structured programs and free-time activities in relation to the Five Cs of PYD.

**SES differences in OST program and activity participation.** Structured programs found in a neighbourhood may have an important impact on the well-being of youths regarding the availability and accessibility of programs, the level of safety and crime, and the quality of adult role models (Curtis, Dooley, & Phipps, 1999). For instance, when comparing neighbourhoods, youths in poor neighbourhoods showed a stronger link between sports and school achievement than youths in wealthy neighbourhoods (Guest & Schneider, 2003). In contrast, a stronger positive link between non-sport activities (e.g., music group, drama group, student government, hobby club, cheerleading) and school achievement was found for youths in wealthy neighbourhoods than youths in poor neighbourhoods. Similarly, Marsh and Kleitman (2002) assessed the interaction between student characteristics during grades 10 and 12 and OST structured program participation, finding SES to have the most consistent interaction effects. Specifically, results indicated that adolescents from low SES backgrounds had greater academic benefits (e.g., school grades, educational and occupational aspirations, self-esteem) from participation in structured programs than adolescents from high SES backgrounds. As stated in Ellen and Turner (1997):

> The availability of after school programs, such as sports, music, and art, may matter a great deal, especially during the adolescent years. Without these diversions, teenagers may be at greater risk of getting involved in dangerous or antisocial behaviors and may not have the opportunity to discover talents and strengths upon which to build productive lives and careers. (p. 838)

However, a concern that has been acknowledged in recent literature is the barriers that inhibit children and adolescents from participating in OST structured programs and free-time activities in differing SES neighbourhoods. That is, children and adolescents living in lower-income neighbourhoods are likely to experience constraints and safety issues due to the economic deprivation that limit the opportunities for positive development (Yeung, Linver, & Brooks-Gunn, 2002). Cost for structured programs, including transportation to and from the program, appear to be a large barrier for children and adolescents in low-income families compared to those in more affluent families. This is especially true for structured programs that provide more developmentally enriching activities such as sport teams, music lessons, and other community clubs not affiliated with a school (Simpkins, Ripke, Huston, & Eccles, 2005; Theokas & Bloch, 2006). The current study addressed the interaction between SES and participation in structured programs and free-time activities in relation to the Five Cs of PYD.

Given that the relative majority of interactions assessed in the OST literature are on gender and SES, these two variables were included as interaction terms in the current study. The remaining demographic characteristics (i.e., first language learned and family composition) were not included as interaction terms. These two variables were not found as interaction terms in previous studies, rather only as control variables or, in the case of family composition, as a predictor variable (Aspy et al., 2004; Oman et al., 2005).

**Purpose of Present Study**

Situated within a positive youth development (PYD) perspective, the purpose of the present study was to examine both structured programs and free-time activities in a population-level sample of fourth grade children, and how they relate to the Five Cs of PYD. Specifically, structured programs and free-time activities were combined (cf. Bartko & Eccles, 2003) through

a cluster analytic technique, and then assessed with hierarchical multiple regression in order to: first, examine the differences among profile groups of structured programs and free-time activities in relation to the Five Cs of PYD; second, control for gender, language, family composition (i.e., type of adults with whom children live) and SES (at the postal code level); and, third, to examine the interaction between gender by profile groups and SES by profile groups in relation to the Five Cs of PYD. The present study aimed at examining Canadian children in the western region who completed the population-based survey that focused on areas of social and emotional development, adult and peer relationships, subjective health, and OST settings (Schonert-Reichl, Guhn et al., 2012).

Three research questions were investigated: (a) What are the patterns of participation when structured programs and free-time activities are combined? (b) How will each profile group of children's participation in structured programs and/or free-time activities compare to one another in relation to the Five Cs of PYD, and after controlling for individual-, family-, and neighbourhood-level characteristics (i.e., gender, language, family composition, and SES)? (c) Is there a difference between gender for each profile group and between SES for each profile group in relation to the Five Cs of PYD?

# CHAPTER 3

## Method

### Participants

Participants included 2,741 fourth grade students (48% girls; *M* = 9.63 years, *SD* = 0.30, age range = 8 - 11) drawn from 201 classrooms in 72 elementary schools (out of 81) in a large urban school district in Western Canada with a total elementary student population of approximately 31,000 students during the 2009 - 2010 school year (Vancouver School Board District Plan for Student Learning, 2009 - 2010). The 2,741 sample represents those participants from an original sample of 3,026 children who completed data on questions regarding their participation in OST structured programs and free-time activities. Socio-economic status, based on the median equivalized disposable income at the postal code level of participants' residence,[2] ranged from $3,400 - $77,599 (*M* = $26,756, *SD* = $10,925). In the current study, SES was reported as tertile scores of low (< $23,455), medium ($23,456 - $29,848), and high (> 29,849). The tertile scores were based on cut-off scores created by the Canadian Census Tract for Vancouver Median Income (2005).

English was reported as the first language learned for 39% of children, with 34.5% reporting a language other than English as their first language learned (English as a second language [ESL]). For instance, 13% of children reported Cantonese as their first language, followed by 6% who reported Mandarin, 5% reported Other (e.g., Urdu, Russian, German), 2% reported Filipino/Tagalog, 2% reported Punjabi, 2% reported Hindi, 1% reported Japanese, 1% reported Korean, 1% reported Vietnamese, 1% reported Spanish, .3% reported Farsi, and .2%

[2] Statistics Canada provided data only at an aggregated enumeration area code level (e.g., postal code). Enumeration areas can range from block size in densely populated areas to larger areas in sparsely populated areas, and coincide with the area captured by the six-digit postal code (Guhn, Gadermann, Hertzman, & Zumbo, 2010). More information is described below in the section on Median Equivalized Disposable Income.

reported French. The remaining 26.5% reported English plus another language (bilingual) as their first languages. The wide range of languages is representative of the ethnic diversity of the school district in which the study took place (i.e., overall in Vancouver, 60% of children speak a language other than English with a total of 126 languages identified; see http://www.vsb.bc.ca/about-vsb). Participants living with both mother and father comprised 54% of the sample, with 9% living in a single-parent home (i.e., mother), another 9% living with one parent and another adult (e.g., aunt, grandparent), and the remaining 28% living with three or more adults (e.g., dual parents and grandparents).

In the 72 participating elementary schools, the child participation rate was 93%. The sample represents 80% of the public school district's total fourth grade student population. Participation was voluntary for each school and teacher. A passive consent procedure was used to obtain student participation. Parents/guardians were informed of the study with a letter sent home, and parents/guardians were able to opt their child out from participating by contacting their child's teacher or school principal (see Appendices A and B). Based on the general demographics of the Vancouver area, parental/guardian passive consent forms were available to parents/guardians in English, Spanish, Vietnamese, Punjabi, and Simple and Traditional Chinese. Children's participation was voluntary, and children were asked for their assent (see Appendix C).

**Procedure**

Data collection took place in January, 2010. Following approval by the University of British Columbia Behavioural Research Ethics Board (BREB) and the Vancouver School Board (see Appendix D), the Vancouver Elementary School Teachers' Association (VESTA) was notified on the objectives and timeline of the project so that the principle investigator of the

district-wide implementation MDI project could insure that the union was supportive of the MDI survey. Subsequently, school administrators were invited to attend a meeting at the Vancouver School Board where they were informed about the study and received detailed information material about the purpose, objectives, and anticipated outcomes of the project. School administrators distributed the information to the grade 4 teachers in their school and made a joint decision with teachers on whether to accept or decline participation in the project. Those schools that agreed to participate were given an initial information package that included basic information about the research project, and parental/guardian passive consent forms to be sent to parents/guardians four weeks prior to the anticipated start of the data collection. As noted earlier, 72 of the total of 81 elementary schools participated. Reasons for school administrators and teachers declining participation in the research included scheduling conflicts and participation in other projects that were occurring during the same time as the present study. For those 72 schools in which teachers agreed to participate, a second information package was distributed to participating teachers prior to the data collection date with detailed instructions on how to administer the MDI survey to their students (see Appendix E).

The MDI survey was administered to children by classroom teachers and/or the school principal/vice principal in January, 2010. The completion of the survey took, on average, two 40-minute class periods. The teachers were instructed to read aloud a verbal student assent script informing children that participation was voluntary, that their responses would be confidential, and that there would be no consequences if they chose not to participate. Within a one week window, teachers were given the option to administer the survey over the course of multiple days if necessary. To guard against biases due to variability in children's reading proficiencies, the teachers were also instructed to read each item aloud on the survey and children could mark their

responses accordingly. Children were encouraged to ask questions if they did not understand an item during the administration of the survey. Because the survey asked questions regarding peer relationships, bullying/victimization, and school climate, children were able to indicate at the end of the survey—on a separate, detachable sheet—whether they "want help with problems [they] are having with other students." Teachers were advised to follow their school's protocol regarding addressing those children who indicated assistance.

After data collection was completed, all schools that participated in the project received a school report for their individual school. The report was a summary of data reflecting fourth grade students' social and emotional well-being, health, relationships, and how they spend their OST from 3:00 to 6:00 p.m. Schools were also given guidelines for how to use this information and how to incorporate the school report feedback into their future planning (see Guhn, Schonert-Reichl, Gadermann, Hymel, & Hertzman, 2012).

**Measures**

In the current study, survey items and subscales from a larger study of a district-wide implementation of a population-based survey titled the Middle Years Development Instrument (MDI) were used. The MDI survey was developed over the course of four years and tested in three pilot studies (see Appendix F). The final survey for the district-wide implementation contained demographic questions that included gender, birth date, family/household members, and first language(s) learned, as well as 72 items designed to assess five domains of children's development and well-being: (a) Social and emotional development, (b) Connectedness with parents, adults in schools, adults in neighbourhoods, and peers, (c) School experiences, (d) Physical health and well-being, and (e) Constructive use of after-school time (see Appendix G). Each domain on the MDI is comprised of several subscales that are theoretically and empirically

relevant to competence during middle childhood that were adapted from previous measures (see Schonert-Reichl, Guhn et al., 2012 for a full description of the MDI including its development and psychometric properties). For the purposes of the present study, multiple constructs and items on the MDI were included to assess social and emotional development (e.g., general self-concept, prosocial behaviour, empathy); connectedness with parents, adults in school, adults in neighbourhood, and peers (e.g., connections to parents and unrelated adults, connections to peers); school experiences (e.g., academic self-efficacy); physical health and well-being (e.g., overall health); and constructive use of after-school time (e.g., structured programs, free-time activities). In regards to the outcome variables, no more than 3% of data were missing. After reviewing the data set to ensure that there was no discernible pattern to the missing data, they were regarded as missing completely at random (Allison, 2012). For example, no pattern emerged such as missing due to gender differences where only girls skipped items. Due to the small percentage of missing data in relation to the large sample size, no action was taken to impute the data or to remove the cases listwise.

**Demographic information.** A demographic questionnaire was included to gather information on each child's gender, birth date, first language learned, and family composition (i.e., adults with whom they live).

**Competence.** For the purposes of the present study, the construct of "competence" was operationalized as children's self-reported academic self-efficacy and perceived overall health.

***Academic self-efficacy*.** Children's academic self-efficacy was assessed with the Self Beliefs/Academic Self-Efficacy subscale of the Patterns of Adaptive Learning Survey (PALS; Roeser, Midgley, & Urdan, 1996). On a scale ranging from 1 = *Not at all like me*, 2 = *A little like me*, 3 = *Kind of like me*, 4 = *A lot like me*, to 5 = *Always like me*, children were asked to rate

statements concerning their academic self-efficacy that included, "I am certain I can learn the skills taught in school this year," "If I have enough time, I can do a good job on all my school work," and "Even if the work in school is hard, I can learn it." Scores were created by averaging ratings to represent a composite mean score, with higher scores representing higher levels of academic self-efficacy. Evidence of the construct validity of this subscale comes from research by Midgley and colleagues (1998) who demonstrated evidence of the measure's construct validity by showing positive and significant correlations of the Self Beliefs/Academic Self-Efficacy to measures assessing task and ability goal orientations. Confirmatory factor analyses were conducted in a recent study assessing the reliability and validity of the population-based MDI survey using the same data set as that in the present study (see Schonert-Reichl, Guhn et al., 2012). In the present study, Cronbach's alpha was satisfactory ($\alpha = .79$) for this construct.

***Perceived overall health*.** Children's perceived overall health was assessed with the Health subscale of the Youth Health Survey (McCreary Centre Society, 2008). Children responded to the question, "In general, how would you describe your health?" with a scale ranging from 1 = *Poor*, 2 = *Fair*, 3 = *Good*, to 4 = *Excellent*. The one item assessing overall health has been shown to be stable over repeated observations (Boardman, 2006), and to be highly related to other objective measures of health (Idler & Benyamini, 1997).

**Confidence (general self-concept).** For the purposes of the present study, the construct of "confidence" was operationalized as children's self-reported general self-concept. General self-concept was assessed with an adapted version of the Marsh Self Description Questionnaire (SDQ; Marsh, 1988). Strong support for the psychometric properties of the original eight-item general self-concept subscale of the SDQ, including construct validity (Marsh & O'Neill, 1984) and reliability (Marsh, 1996) has been found. The adapted version of the scale used in this study

consisted of three items that included, “In general, I like being the way I am,” “Overall, I have a lot to be proud of,” and “A lot of things about me are good.” Children rated each question on a scale ranging from 1 = *Never*, 2 = *Hardly ever*, 3 = *Sometimes*, 4 = *Often*, to 5 = *Always*. Ratings on this measure were averaged to represent a composite mean score, with higher scores indicating higher general self-concept. Cronbach’s alpha in the present sample was satisfactory ($\alpha = .72$).

**Connection.** In the present study “Connection” was operationalized with regard to the following four scales: (a) children’s perceived support from unrelated adults in their school, (b) children’s perceived support from unrelated adults in their neighbourhood/community, (c) children’s perceived support from parents/caregivers or other adults at home, and (d) children’s reports of peer belonging and friendship intimacy.

***Perceived support from unrelated adults in school and in the neighbourhood/ community.*** Children’s perceived support from unrelated adults in their school and in their neighbourhoods/communities was assessed with two subscales from the California Healthy Kids Survey (CHKS; Constantine & Benard, 2001; Hanson & Kim, 2007; WestEd, 2011), which assessed children’s perception of supportive relationships with unrelated adults in their school and in their neighbourhood/community. The original subscales for the unrelated adults in school and unrelated adults in neighbourhood/community consisted of six items for each dimension. The original subscale revealed strong internal consistency (Hanson & Kim, 2007). For the purposes of the present study, the six-item scales were shortened to include three items for each dimension. On a scale ranging from 1 = *Not at all true*, 2 = *A little true*, 3 = *Pretty much true*, to 4 = *Very much true*, children rated each question with regard to the degree to which they perceived they had a supportive relationship with a teacher or other adult in their school (e.g., “at

my school, there is a teacher or another adult who really cares about me") as well as the degree to which they perceived they had a supportive relationship with an adult in their neighbourhood/community (e.g., "outside of my home and school, there is an adult who listens to me when I have something to say"). Ratings for each item in each subscale were then averaged to represent a composite mean score, with higher scores indicating greater levels of perceived support. In the present study, Cronbach's alpha was .71 for the unrelated adults in school subscale, and .87 for the unrelated adults in neighbourhood/community subscale.

***Perceived family support.*** Perceived family support was assessed with the Parental Support subscale of the CHKS (Constantine & Benard, 2001; Hanson & Kim, 2007; WestEd, 2011). The original subscale consisted of six items and revealed strong internal consistency (Hanson & Kim, 2007). The adapted scale in this study consisted of three items. On a scale ranging from 1 = *Not at all true*, 2 = *A little true*, 3 = *Pretty much true*, to 4 = *Very much true*, children were asked to rate statements concerning their perceptions of support from their parents/caregivers or other adults at home. Items included, "In my home, there is a parent/caregiver or another adult who believes that I will be a success," "…who listens to me when I have something to say," and "…who talks with me about my problems." Ratings were then averaged to represent a composite mean score, with higher scores indicating higher levels of perceived support from related adults in the home. In the present study, Cronbach's alpha for this subscale was .69, indicating moderate to satisfactory internal consistency.

***Peer belonging.*** Peer belonging was assessed with a shortened version of the peer-group-integration subscale in the Relational Provisional Loneliness Questionnaire (RPLQ; Hayden-Thomson, 1989). The original scale consisted of fourteen items on youths' perceived social support from friends (i.e., seven items in the peer-group-integration subscale and seven items in

the peer-personal-intimacy subscale) and revealed strong reliability and support for construct validity (Hayden-Thomson, 1989; Hymel, Tarulli, Hayden-Thomson, & Terrell-Deutsch, 1999). Accordingly, researchers used and adapted the RPLQ and consistently reported strong reliability in their studies (Bonanno & Hymel, 2010; Guhn et al., 2012; Konishi & Hymel, 2009; Sullivan, Marshall, & Schonert-Reichl, 2002; Teja & Schonert-Reichl, 2012). The shortened version of the subscale on peer-group-integration that was used in this study, and labeled as peer belonging, consisted of three items that included statements concerning children's sense of belonging with peers (i.e., "I feel part of a group of friends that do things together," "I feel that I usually fit in with other kids around me," and "When I am with other kids my age, I feel I belong."). Children were asked to rate these items on a scale ranging from 1 = *Not at all true,* 2 = *Hardly ever true,* 3 = *Sometimes true,* 4 = *Most of the time true,* to 5 = *Always true*. Ratings for each of the three items were then averaged to represent a composite mean score, with higher scores indicating higher levels of perceived belonging with peers. In the present study, Cronbach's alpha for this subscale was .79, indicating satisfactory internal consistency.

***Friendship intimacy.*** Friendship intimacy was assessed with a shortened version of the peer personal-intimacy subscale in the same RPLQ survey described above (Hayden-Thomson, 1989). On a scale ranging from 1 = *Not at all true,* 2 = *Hardly ever true,* 3 = *Sometimes true,* 4 = *Most of the time true,* to 5 = *Always true,* children were asked to rate statements concerning their peers that included, "I have at least one really good friend I can talk to when something is bothering me," "I have a friend I can tell everything to," and "There is somebody my age who really understands me." Ratings for each item were averaged to represent a composite mean score, with higher scores indicating higher levels of perceived friendship intimacy. In the present study, Cronbach's alpha was .79 for this subscale, indicating satisfactory internal consistency.

**Character (prosocial behaviour).** For the purposes of the present study, the construct of "character" was operationalized as children's self-reported prosocial behaviour. More specifically, prosocial behaviour was assessed with a shortened version of the Altruistic Behavior subscale of the Youth Outcome Measures for AfterSchool KidzLit™ (Developmental Studies Center, 2001). The original subscale consisted of ten items and revealed strong reliability (Developmental Studies Center, 2001). Researchers who have used the scale in their studies also showed strong reliability (Battistich, Schaps, & Wilson, 2004; Schwartz, Gorman, Dodge, Pettit, & Bates, 2008; Solomon, Battistich, Watson, Schaps, & Lewis, 2000). A previous study using the MDI survey found strong reliability and support for construct validity (Schonert-Reichl, Guhn et al., 2012). The adapted scale in this study consisted of three items. On a scale ranging from 1 = *Never*, 2 = *Once or twice*, 3 = *A few times*, to 4 = *Many times*, children were asked to rate statements concerning their behaviours that included, "I cheered someone up who was feeling sad," "I helped someone who was being picked on," and "I helped someone who was hurt." Ratings for items were then averaged to represent a composite mean score, with higher scores indicating higher levels of self-reported prosocial behaviour. In the present study, Cronbach's alpha for this measure was .82, indicating satisfactory internal consistency.

**Caring (empathy).** In the present study, the construct of "caring" was operationalized as children's self-reported empathy. Accordingly, empathy was assessed with a shortened version of the Empathic Concern subscale from the Interpersonal Reactivity Index (IRI; Davis, 1983). The original subscale for Empathic Concern included seven items that revealed strong reliability and validity for adolescents and adults (Davis, 1983; for a review, see Eisenberg & Strayer, 1987; Zhou, Valiente, & Eisenberg, 2003). Researchers who have used and adapted the IRI for children in other studies reported support for strong reliability and construct validity (Garton &

Gringart, 2005; Litveck-Miller, McDougall, & Romney, 1997; Schonert-Reichl, 1993; Schonert-Reichl, Smith, Zaidman-Zait, & Hertzman, 2012). A previous study using the MDI survey found strong reliability and support for construct validity (Schonert-Reichl, Guhn et al., 2012). The adapted subscale in this study consisted of three items. On a scale ranging from 1 = *Not at all like me*, 2 = *A little like me*, 3 = *Kind of like me*, 4 = *A lot like me*, to 5 = *Always like me*, children were asked to rate statements concerning their thoughts and feelings about other children that included, "I feel sorry for other kids who don't have the things that I have," "When I see someone being treated mean it bothers me," and "I am a person who cares about the feelings of others." Ratings were then averaged to represent a composite mean score, with higher scores indicating higher levels of empathic concern. In the present study, Cronbach's alpha was .65 for this subscale, indicating moderate internal consistency.

**Out-of-school time.** The following two measures were used in the present study to assess children's reports of their participation in OST settings, namely children's participation in structured programs and free-time activities.

***Structured programs.*** Structured program items were adapted from a survey used and modified by researchers at Chapin Hall at the University of Chicago who examined ninth graders' reports of OST settings in the Chicago Public Schools (Goerge & Chaskin, 2004). The survey was part of a larger project that included in-depth interviews asking children during middle childhood about their perspectives on the neighbourhood, school, and after-school opportunities available to them (see Vandell & Pierce, n.d.). In the original measure, adolescents were asked about their participation in structured activities (e.g., school, community, and religious programs, private lessons and community service) along with how much they participated, where they participated, with whom they participated, and why they participated. In

the adapted version used in the current study, children were asked to respond to statements concerning their participation in structured programs. Specifically, participants were asked to respond to the following questions: "During last week after school (3:00 to 6:00 p.m.), did you participate in: (a) Educational lessons or activities; (b) Art or music lessons; (c) Individual sports with a coach or instructor; and (d) Teams sports with a coach or instructor." Participants responded to each structured program with a *yes* or a *no*. If participants responded with a yes, they were asked to rate how often they participated in each program on a scale ranging from 1 = *Yes, 1-2 days during the week*, 2 = *Yes, 3-4 days during the week*, 3 = *Yes, 5 days, every day of the week.* The responses for the items on the amount of days children participated in the structured program were only used to manage missing data.

The OST questions in the current study were formatted similarly to questions used in previous studies examining children's participation in after-school activities. For example, Crocker and colleagues (2000) used The Physical Activity Questionnaire to assess children aged 10 to 14 years on participation in physical activities over the previous seven days. Children responded to nine items that included a 5-point Likert-type scale (e.g., *none* to more *than seven times in a week*). The first items comprised of a checklist of 22 common physical activities that acted as a memory cue. The remaining items asked for information such as where and when the activity was done, and the level of physical activity (e.g., moderate to vigorous levels). The items on the questionnaire showed acceptable validity with test-retest reliability of $r = .75$ for boys and .82 for girls in grades 4 to 8.

***Free-time activities.*** Free-time activity items were adapted from the same survey described above (Goerge & Chaskin, 2004; Vandell & Pierce, n.d.). In the original measure, adolescents were asked about their time spent in unstructured activities such as time spent alone,

watching television or videos, working or playing on a computer, reading for fun, doing household chores, playing video games, hanging out with friends, and doing their homework. In the current study, an adapted version was used where children were asked to respond to statements concerning their participation in free-time activities on the following questions: "During last week after school (3:00 to 6:00 p.m.), did you: (a) Do sports and/or exercise for fun; (b) Watch television.; (c) Play video or computer games; (d) Instant Message; (e) Read for fun; (f) Practice a musical instrument; (g) Do household chores; and (h) Do arts and crafts. Participants responded to each free-time activity with a *yes* or a *no*. If participants responded with a yes, they were asked to rate how often they participated in each activity on a scale ranging from 1 = *Yes, 1-2 days during the week*, 2 = *Yes, 3-4 days during the week*, 3 = *Yes, 5 days, every day of the week.* The responses for the items on the amount of days children participated in the free-time activity were only used to manage missing data.

First, to maximize the use of available data, yes/no OST items were recoded by cross-referencing those items with children's responses on the amount of days they participated in the OST items. It is likely that children skipped the yes/no item and went directly to responding to the amount of days item, and which it was safe to assume that children intended to select yes to the OST item. If children reported the amount of days, but left the yes/no OST item blank, then the OST item was changed from a blank to a "yes." Up to 6% ($n$ = 169) of cases were matched.

Second, when the yes/no OST item and the amount of days OST item showed cases with missing data in both items, the OST items were regarded as missing at random (Allison, 2012). This was determined by reviewing the data set to ensure that there was no pattern to the missing data. For example, no pattern emerged such as missing due to gender differences where only girls skipped items. Listwise deletion was used by deleting cases for any missing responses in the

OST program and activity items. Deleting cases listwise is efficient for categorical variables that are missing at random, and where 10% or less are deleted from a large sample size (Allison, 2012; Chen & Astebro, 2003). A total of 10% of cases were deleted listwise resulting in an updated sample of 2,741.

**Control Variables**

Individual-level, family-level and neighbourhood-level characteristics were used as control variables in the present study to take into account characteristics that may be related to participation in OST programs and activities. Researchers have found that demographic variables such as gender, race/ethnicity, and SES affect youths' participation in OST programs and activities (e.g., Bartko & Eccles, 2003; Bohnert et al., 2010; Cooper et al., 1999; Eccles et al., 2003; Gardner, Roth, & Brooks-Gunn, 2009; Linver et al., 2009). For example, Linver and colleagues (2009) included demographic characteristics as controls (age, gender, ethnicity, public/private school, parent education, family total income, maternal work status, and one/two-parent family) to examine patterns of activities in relation to indicators of positive youth development. The authors state that by addressing these characteristics, they are controlling for the possibility of youths who are more organized, planful, and who may have greater access to activities that may lead to more participation in organized activities such as sports, school clubs, and volunteer work. Fredricks and Eccles (2005) addressed self-selection concerns by controlling for demographic characteristics such as gender, age, SES, and academic ability, which have been used as predictors in previous studies. These characteristics have been correlated with school engagement, psychological adjustment, and risky behaviours, and if they are not controlled for, then they may overemphasize the developmental benefits of participation in OST settings.

**Individual-level characteristics.** Individual-level characteristics in the present study included children's gender, and first language learned. It is possible that gender may play a role in the type of programs and activities in which youths participate. For instance, researchers examining OST settings for children in middle childhood found that girls are more likely than boys to report participation in socializing and/or academic activities, and boys are more likely than girls to report participation in all activities and primarily in coached sports (e.g., Larson & Verma, 1999; McHale et al., 2004; Posner & Vandell, 1999; Zarbatany et al., 2000). First language learned was assessed by asking children to check all of the languages they first learned. The list of languages pertained to the most common languages spoken in the Vancouver area. These included English, Cantonese, Mandarin, Other (e.g., Urdu, Russian, German), Filipino/Tagalog, Punjabi, Hindi, Japanese, Korean, Vietnamese, Spanish, Farsi, and French, respectively.

**Family-level characteristic.** Family-level characteristic in the present study referred to the family composition in a child's home. Family composition was assessed by asking children to check all of the adults with whom they live. The list of adults included Mother, Father, Stepfather, Stepmother, Grandmother, Grandfather, Second Mother, Second Father, Part-Time with each Parent, Foster Parent(s)/Caregiver(s), and Other Adults. The responses were grouped to represent children who selected one parent (e.g., single mother or single father), both parents (e.g., mother and father, mother and second mother, father and stepmother), one parent with other adults (e.g., mother and aunt), and both parents with other adults (e.g., parents and grandparents). Because of self-selection concerns, it seemed important to control for family composition because studies have shown it to be a predictor of participation in structured programs (e.g., Aspy et al., 2004; Oman et al., 2005). By not controlling for family composition,

the impact of developmental benefits may be overstated.

**Neighbourhood-level characteristic.** The neighbourhood-level characteristic in the present study was based on the median equivalized disposable income (i.e., SES) at the postal code level derived from children's residence. Previous studies have shown SES as a predictor of participation in structured programs and free-time activities (e.g., Dearing et al., 2009; Linver et al, 2009; Simpkins, Ripke, Huston, & Eccles, 2005; Theokas & Bloch, 2006). SES is addressed by controlling for its potential developmental benefits.

***Median equivalized disposable income.*** In the analyses for the present study, SES was used as a proxy for the median equivalized disposable income variable of a child's family, according to the postal code of the child's residence at the time of data collection, which was merged with the data from participants' MDI survey. SES data were obtained from 2006 tax filer data (Statistics Canada). Specifically, the variable, median equivalized disposable income at census enumeration area (i.e., six-digit postal code level), was used as an indicator of approximate family SES at the neighbourhood block level. As described by Guhn and colleagues (2010), the variable is equivalized according to (a) family size because the living costs of a household do not linearly increase with increasing family size, and (b) the age of the family members because children and teenagers have lower living costs than adults on average. The term "equivalized" takes into account the differences in family sizes and considers the fixed expenses to run a household. The first adult counts for one unit, the second adult counts as .5, and children count as .3. The term "disposable income" refers to the total income remaining after provincial and federal taxes are removed. Cost for rent/mortgage and other expenses are not included in the calculation of the disposable income. Then, the income for each household is aggregated to the postal code level resulting in the median "equivalized disposable income" for

each postal code area.

Although the variable is calculated based on individual census family income, Statistics Canada provided data only at an aggregated enumeration area code level (e.g., postal code). Enumeration areas can range from block size in densely populated areas to larger areas in sparsely populated areas, and coincide with the area captured by the six-digit postal code (Guhn et al., 2010). Because data in this study were obtained from a population of grade 4 students attending elementary schools in Vancouver—a major Canadian city—it can be assumed that the enumeration areas in which the participants resided were all fairly densely populated and have geographical resemblance to block areas (Guhn et al., 2010). Representative studies conducted in the Canadian context have shown that census income data aggregated at the postal code/block level serve as a reasonable proxy for family-level income in large-scale analyses (e.g., Mustard, Dersksen, Berthelot, & Wolfson, 1999). Accordingly, previous population-level studies in the Canadian context have used the same methodology (e.g., Guhn et al., 2010; Oliver, Dunn, Kohen, & Hertzman, 2007).

**Interaction Terms**

In addition to examining the association between profile groups and the Five Cs of PYD above and beyond the individual-, family-, and neighbourhood-level characteristics, I also examined whether the profile groups differed based on gender and SES. Researchers from previous studies examined the role of gender on participation in programs and/or activities and found boys and girls to differ in the type of programs and activities in which they participated (e.g., Holland & Andre, 1987; Larson & Verma, 1999; Marsh & Kleitman, 2002; McHale et al., 2004; Posner & Vandell, 1999; Shanahan & Flaherty, 2001; Theokas & Bloch, 2006; Zarbatany et al., 2000). It is also possible that children who live within postal codes that report higher SES

are more likely to have greater access to programs and activities than children who live within postal codes that report lower SES (e.g., Brooks-Gunn, Duncan, & Aber, 1997; Dearing et al., 2009; Guest & Schneider, 2003; Simpkins et al., 2005; Theokas & Bloch, 2006; Yeung et al., 2002).

**Data Summary and Statistical Analyses**

As stated earlier, the five outcomes of interest in this study are: (a) Competence (i.e., academic self-efficacy, overall health), (b) Confidence (i.e., general self-concept), (c) Connections (i.e., relationships with unrelated adults and parents, and relationships with peers), (d) Character (i.e., prosocial behaviour), and (e) Caring (i.e., empathy). The variables under investigation for their relationship to the outcomes are: (a) OST structured programs (e.g., team sports), and (b) OST free-time activities (e.g., watching television).

**Research question 1: Identification of OST participation profiles.** The first research question asked: what are the patterns of participation when structured programs and free-time activities are combined? A cluster analytic technique was used to identify the pattern of children's participation in both structured programs and free-time activities. Cluster analysis is a technique that groups individual cases (i.e., participants) together based on similar responses in the variables being assessed (e.g., profiles; Field, 2000; Hair & Black, 2000). Cluster analysis has been used to identify patterns of sedentary behaviours (Zabinski, Norman, Sallis, Calfas, & Patrick, 2007), adults' physical activity patterns across multiple life domains (Rovniak et al., 2010), children's program patterns (Linver et al., 2009; Morris & Kalil, 2006), multiple health risk behaviours (Poortinga, 2006), and neighbourhood characteristics (Nelson, Gordon-Larsen, Song, & Popkin, 2006).

Cases with similar profiles are likely to cluster together—clusters can then be defined as individual groups of cases. The aim of a cluster analysis is to identify these groups (Aldenderfer & Blashfield, 1984; Seber, 1984 as cited in Linver et al., 2009). A two-step clustering technique can manage large datasets, categorical and continuous variables, and provides the option to either specify clusters in advance or to allow the program to specify the number automatically (Hair & Black, 1998). In the current study, I used a two-step clustering technique due to the large dataset and categorical variables of interest. Alternative clustering approaches are hierarchical cluster analysis and K-means cluster analysis (SPSS Technical Report, 2001). The hierarchical cluster analysis is limited to smaller datasets, and the K-means cluster analysis can manage large datasets but is limited to continuous variables and requires a specified number of clusters in advance.

In a two-step clustering technique, the first step refers to cases that are assigned into pre-clusters that are regarded as single cases in the second step (SPSS Technical Report, 2001). The second step uses a hierarchical algorithm to further refine the pre-clusters. During the two-step clustering process, the algorithm uses the Bayesian Information Criterion (BIC) or the Akaike Information Criterion (AIC) to determine the number of clusters by including a penalty term for the number of parameters in the model, which removes the risk of overfitting the model. The BIC was used in the current study as it allows for a larger penalty term. Additionally, a distance measure is used to define the distance between two clusters with either log-likelihood or Euclidean distance measures. Euclidean is used only if all variables are continuous, but the current study used categorical variables, thus log-likelihood was selected.

**Research question 2: Relation of OST profile groups to the Five Cs of PYD.** The second question asked: how will each profile group of children's participation in structured

programs and/or free-time activities compare to one another in relation to the Five Cs of PYD, and after controlling for individual-, family-, and neighbourhood-level characteristics (i.e., gender, language, family composition, and SES)? Based on the profile groups that emerged for the structured programs and free-time activities, a hierarchical multiple regression[3] was conducted to determine the association between profile groups and the Five Cs of PYD (i.e., indicators of positive functioning identified as academic self-concept, overall health, general self-concept, connections to adults, connections to peers, prosocial behaviour, and empathy). The first block included the profile groups (dummy coded for each profile group and with a reference group identified) and the second block included the control variables (dummy coded for all categorical variables)[4]. This analysis examines how different profile groups are associated with the Five Cs of PYD, and then how the profile groups are associated with the Five Cs above and beyond the individual-, family-, and neighbourhood-level characteristics.

Effect sizes for the regression models were based on the adjusted *R*-squared. The adjusted *R*-squared provides the amount of variance explained by the profile groups in relation to each of the Five Cs of PYD after adjusting for the demographic characteristics. Adjusted *R*-squared can range from small (.01), medium (.05), and large (.13) effect sizes (Becker, 2000). Also included were effect sizes to illustrate the strength of the difference between each profile group. The effect sizes for these comparisons were based on calculating the estimated marginal means and standard deviations to produce Cohen's *d* (Cohen, 1988). Cohen's *d* represents small (.2), medium (.5), and large (.8 and higher) effect sizes that show the strength of the relationship

[3] Although regression analysis and analysis of variance (ANOVA)/analysis of covariance (ANCOVA) function the same way and produce the same results, particularly when examining the association between dichotomous variables and continuous variables, multiple regression was chosen over ANOVA and ANCOVA to present unstandardized and standardized coefficients, as well as *R*-squared and adjusted *R*-squared values.

[4] The first block in the hierarchical regression model resembles an ANOVA and the second block resembles an ANCOVA.

based on the difference between means. The differences between profile groups may be significant below a *p*-value of .05; however, due to the large sample size of the current study, the effect sizes were included in order to illustrate the strength of the difference of means between the profile groups (Cohen, 1988).

Hierarchical linear modeling (HLM) was considered as an alternative analytic approach to multiple regression. In HLM, the first level of the model would include children's participation in structured programs and free-time activities, and the second level would include the SES variable as a grouping variable to represent the neighbourhood where children lived (i.e., median equivalized disposable income at the postal code level). However, HLM was not possible for the current study because once cluster analysis was used to group children together based on the same responses to programs and activities, the study was no longer a true nested design. That is, the cluster analysis groups children together to represent the same responses to programs/activities despite where they live. Each profile group may include children from every neighbourhood (i.e., children were drawn from a total of 23 neighbourhoods); consequently, the SES variable could no longer be used as a grouping variable. Thus, HLM was considered inappropriate for the current study.

**Research question 3: Interaction between profile groups by gender and by SES.** The third research question asked: is there difference between gender for each profile group and between SES for each profile group in relation to the Five Cs of PYD? Interaction terms were created (the product of both variables) and entered in the third block of the hierarchical multiple regression model. This last step illustrates how gender and SES differ per profile group.

# CHAPTER 4

## Results

Using a person-centered approach, the primary purpose of the present study was to identify children's patterns of participation in OST structured programs and free-time activities via a cluster analytic technique to create profile groups of children based on the same types of programs and/or activities in which they participated. Profile groups of children who participated in the same programs/activities were then examined in relation to the Five Cs of PYD that included academic self-efficacy and overall health (i.e., competence), general self-concept (i.e., confidence), connections to unrelated and related adults and connections to peers (i.e., connections), prosocial behaviour (i.e., character), and empathy (i.e., caring) via hierarchical multiple regressions.

Results are presented in three sections. The first section presents preliminary analyses, including frequencies for OST programs/activities and descriptive statistics for the Five Cs of PYD, along with tests of assumptions for these variables (e.g., histograms, scatter plots, skew test, kurtosis test). The second section presents correlational analyses examining relations among OST programs and activities, and relations among the Five Cs of PYD. Finally, the third section presents results for the cluster analysis and hierarchical multiple regressions examining the patterns of participation in structured programs and free-time activities in relation to the Five Cs of PYD, both before and after controlling for individual-, family-, and neighbourhood-level characteristics. Results are also presented for interactions between gender and profile groups, and between SES and profile groups in relation to the Five Cs of PYD.

## Descriptive Statistics

**Frequency of OST program/activity participation.** Frequencies for children's participation in each OST structured program and free-time activity were calculated, and are presented in Table 1. As can be seen, the highest participation rate for structured programs was found with individual sports (40%), and the lowest participation rate for structured programs was found for participation in team sports (31%). For free-time activities, the highest rate of children's participation was found for watching television (84%), and the lowest rate of participation was found for instant messaging (44%). These frequencies were further explored by assessing the breadth of participation in structured programs and free-time activities.

Table 1
*Percentage of Children who Participated in Structured Programs and Free-Time Activities*

| OST Variable | Percentage | *N* |
|---|---|---|
| **Structured Programs** | | |
| Educational Lessons | 35% | 956 |
| Art or Music Lessons | 36% | 989 |
| Individual Sports | 40% | 1,107 |
| Team Sports | 31% | 862 |
| **Free-Time Activities** | | |
| Sports/Exercise for Fun | 56% | 1,528 |
| Watching T.V. | 84% | 2,297 |
| Playing Video/Computer Games | 76% | 2,079 |
| Instant Messaging | 44% | 1,151 |
| Reading for Fun | 77% | 2,115 |
| Household Chores | 66% | 1,820 |
| Practicing Musical Instrument | 54% | 1,482 |
| Arts & Crafts | 50% | 1,379 |

**Breadth of OST program/activity participation.** Frequencies were separated for structured programs and free-time activities to illustrate the range of participation in each domain. The number of structured programs (educational lessons, art/music lessons, individual sports, and team sports) was summed to determine the amount of structured programs in which children participated. On average, children participated in just under two structured programs ($M$ = 1.43, $SD$ = 1.20). Participation in the eight free-time activities (sports/exercise for fun, watching television, playing video/computer games, instant messaging, reading for fun, household chores, practicing musical instrument, arts and crafts) was also summed to determine the amount of free-time activities in which children reported participation. On average, children participated in just over five of the eight free-time activities ($M$ = 5.05, $SD$ = 1.80). Figure 1 displays the percentage of children who participated in zero, or one or more structured program and Figure 2 displays the percentage of children who participated in zero, or one or more free-time activity. As can be seen, the majority of children (80%) reported participating in zero to two structured programs and in three to seven free time activities (83%). This breadth of participation was further explored with cluster analytic techniques described in a later section.

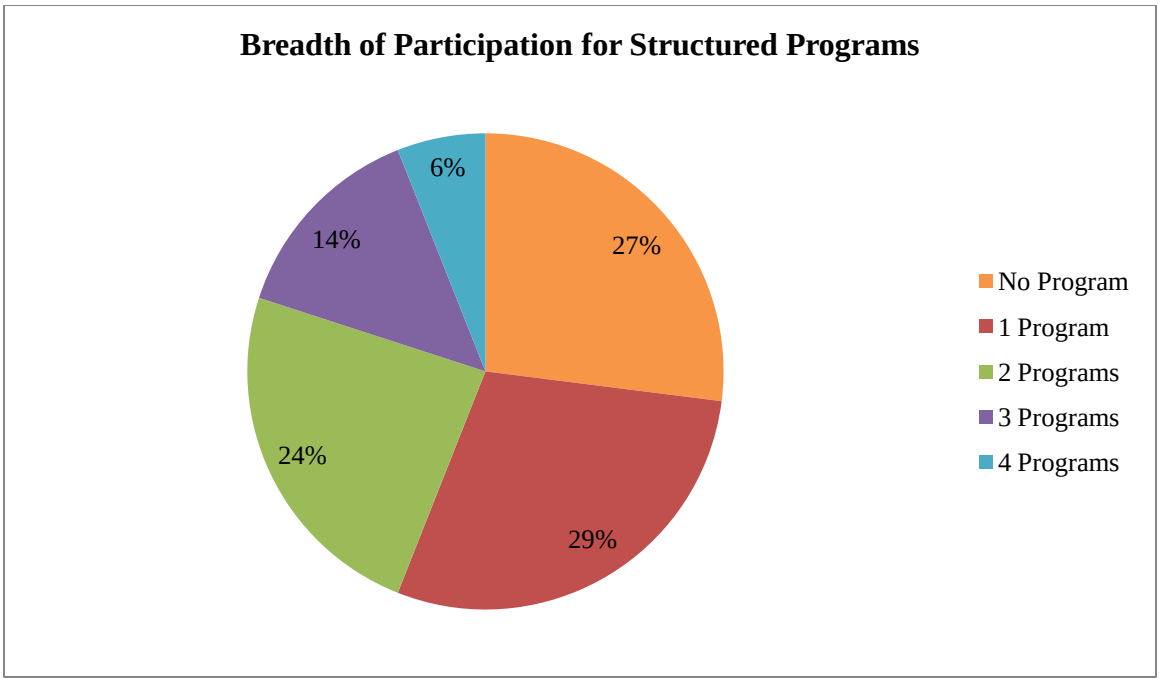



*Figure 1*. Breadth of children's participation in a range of structured programs. *N* = 2,741.

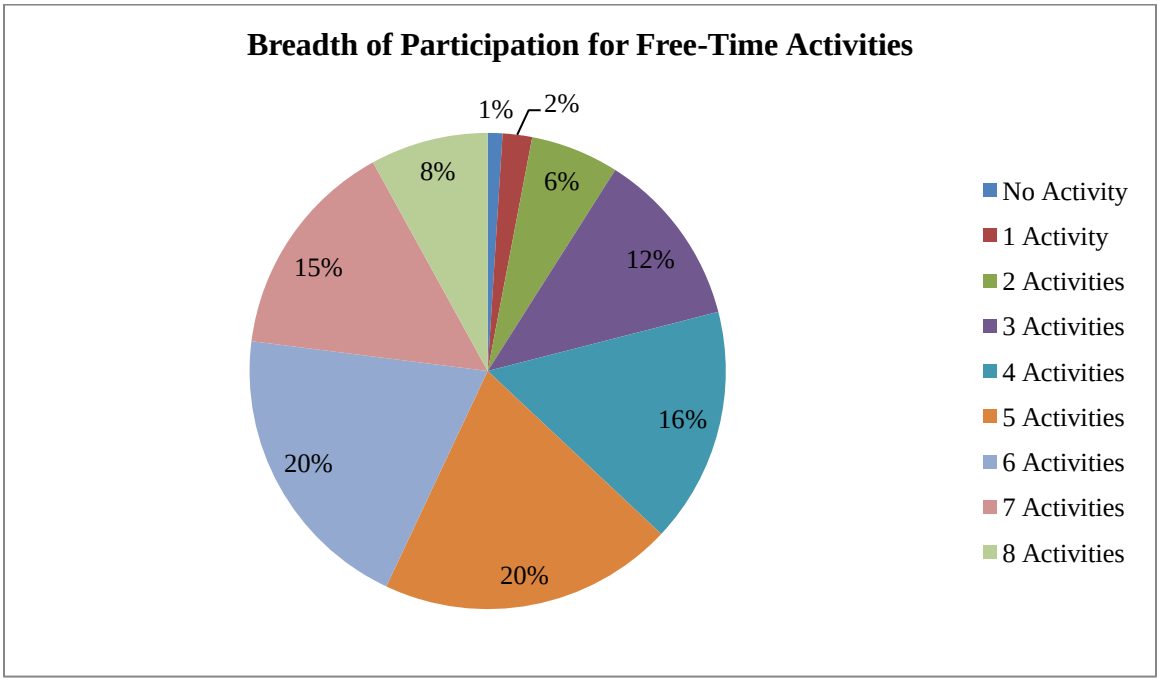



*Figure 2*. Breadth of children's participation in a range of free-time activities. *N* = 2,741.

**Descriptives for the Five Cs of PYD variables.** Means, standard deviations (*SD*), and the range of scores for all indicators of positive functioning were calculated, and are reported in Table 2. As can be seen, in general, children's responses to each indicator of positive functioning shows that children reported mid- to high-levels of positive functioning, which are categorized under the framework of the Five Cs of PYD.

Table 2
*Descriptive Statistics for the Five Cs of PYD*

| Outcome Variable | *Mean* | *SD* | *N* | Min. to Max. | Skew | Kurtosis |
|---|---|---|---|---|---|---|
| **Competence** | | | | | | |
| Academic Self-Efficacy | 4.01 | .84 | 2,715 | 1 to 5 | -.81 | .24 |
| Overall Health | 3.36 | .66 | 2,726 | 1 to 4 | -.77 | .49 |
| **Confidence** | | | | | | |
| General Self-Concept | 4.04 | .72 | 2,717 | 1 to 5 | -.72 | .39 |
| **Connection** | | | | | | |
| Connection to Adults | 3.07 | .60 | 2,648 | 1 to 4 | -.53 | -.13 |
| Connection to Peers | 3.90 | .88 | 2,691 | 1 to 5 | -.96 | .58 |
| **Character** | | | | | | |
| Prosocial Behaviour | 2.68 | .78 | 2,717 | 1 to 4 | -.12 | -.76 |
| **Caring** | | | | | | |
| Empathy | 3.61 | .90 | 2,681 | 1 to 5 | -.34 | -.45 |

*Note.* All outcome variables reflect a composite of three items for each construct, with the exception of overall health which was a one-item variable.

**Testing assumptions for the Five Cs of PYD.** Prior to conducting the cluster and regression analyses, data were explored for normality, as well as homogeneity of variance, with regard to the Five Cs of PYD in relation to demographic variables (e.g., gender, SES; Pallant, 2007). Normality test procedures included a graphical analysis of histograms to view distribution

of data, p-p (probability-probability) plots to see how much of the data departs from the theoretical normal distribution line (Chambers, Cleveland, Kleiner, & Tukey, 1983), and scatter plots to show the relationship between two variables. Additional analyses included the Durbin Watson statistic to test for serial correlation, and tests of skewness (to check whether the data occupies more of the left or right side of the distribution) and kurtosis (to check the shape of the distribution). Tests for multicollinearity included variance inflation factor (VIF), tolerance, and collinearity diagnostics to check for severity of multicollinearity.

To test for normality, I first examined histograms and p-p plots of residuals for all variables to determine normal distribution. Analyses for academic self-efficacy, general self-concept, connection to peers, and empathy, showed minimal negative skewing in the histogram. Moreover, analyses for academic self-efficacy, overall health, general self-concept, connection to adults, and connection to peers showed minimal to some "snaking" in the p-p plots indicating a slight departure of data from the normal distribution line. Due to the large sample size (above 30), and the robustness of the analytical techniques for normality assumptions in SPSS, these violations were not considered to be a major concern (Pallant, 2007). Second, I examined the scatter plots and found all residuals and outcome variables to be heterosedastic, meaning the data were plotted in a rectangular shape around the regression line indicating that the variables were linear to one another (the residuals increased as the outcome variable increased). Third, I calculated the Durbin Watson statistic and found that the residuals were independent of each other, suggesting no serial correlation among the residuals. Fourth, all items showed negative skewness and three items showed negative kurtosis (see Table 2), however, all values were below 1, which is considered acceptable to proceed with subsequent analyses (Miles & Shevlin, 2004). Finally, I tested for multicollinearity and found all parameters to be within the acceptable

range (VIF less than 4; tolerance more than .2; and condition index, under the collinearity diagnostics, below 15).

## Interrelations Among Variables

**Relations of participation in OST programs and activities to demographic characteristics.** Table 3 shows participation rates for gender and SES in relation to each OST structured program/free-time activity. The varied sample sizes for each row represents the number of children who participated in each structured program and each free-time activity.

With regard to SES, median equivalized disposable income at the postal code level (i.e., SES) was utilized and reported in Table 3 as tertile scores of low, medium, and high, based on cut-off scores from the Canadian Census Tract for Vancouver Median Income (2005). It should be noted that the percentage of children who participated in programs/activities was higher for children in the low SES group with a fairly even division between children in the medium and high SES groups. This is primarily due to the number of children represented in each group with approximately half of the sample in the low SES group ($n$ = 1,345), and approximately a quarter of the sample in the medium SES group ($n$ = 608) and in the high SES group ($n$ = 756). This led to the disproportionate percentages presented in the table.

Table 3
*Frequency of Children who Participated in Structured Programs and Free-Time Activities by Gender and by SES*

| | Gender | | SES | | | |
|---|---|---|---|---|---|---|
| **OST Variable** | **Boys** | **Girls** | **Low (<$23,455)** | **Medium ($23,456-$29,848)** | **High (>$29,849)** | ***N*** |
| **Structured Programs** | | | | | | |
| Educational Lessons | 49% | 51% | 50% | 24% | 26% | 956 |
| Art or Music Lessons | 46% | 54% | 40% | 23% | 37% | 989 |
| Individual Sports | 48% | 52% | 44% | 22% | 34% | 1,107 |
| Team Sports | 65% | 35% | 37% | 22% | 41% | 862 |
| **Free-Time Activities** | | | | | | |
| Sports/Exercise for Fun | 50% | 50% | 47% | 24% | 29% | 1,528 |
| Watching T.V. | 52% | 48% | 52% | 22% | 26% | 2,297 |
| Playing Video/Computer Games | 56% | 44% | 51% | 22% | 27% | 2,079 |
| Instant Messaging | 45% | 55% | 53% | 22% | 25% | 1,151 |
| Reading for Fun | 47% | 53% | 48% | 23% | 29% | 2,115 |
| Household Chores | 46% | 54% | 48% | 24% | 28% | 1,820 |
| Practicing Musical Instrument | 46% | 54% | 45% | 24% | 31% | 1,482 |
| Arts & Crafts | 39% | 61% | 46% | 24% | 30% | 1,379 |

With regard to language groups, children who spoke only English, children who spoke English and another language (bilingual; e.g., English and Cantonese), and children who spoke a language other than English (ESL; e.g., Punjabi) are presented in Table 4. As can be seen, children who spoke only English showed relatively higher rates of participation in structured programs and free-time activities compared to children who were bilingual or ESL. However, children who were ESL showed higher rates of participation in educational lessons than children who spoke only English or were children who were bilingual.

Table 4
*Frequency of Children who Participated in Structured Programs and Free-Time Activities by Language*

| OST Variable | English Only | Bilingual | ESL | *N* |
|---|---|---|---|---|
| **Structured Programs** | | | | |
| Educational Lessons | 26% | 30% | 44% | 952 |
| Art or Music Lessons | 41% | 26% | 33% | 982 |
| Individual Sports | 38% | 28% | 34% | 1,102 |
| Team Sports | 52% | 26% | 22% | 856 |
| **Free-Time Activities** | | | | |
| Sports/Exercise for Fun | 41% | 28% | 31% | 1,518 |
| Watching T.V. | 39% | 28% | 33% | 2,285 |
| Playing Video/Computer Games | 40% | 27% | 33% | 2,067 |
| Instant Messaging | 34% | 33% | 33% | 1,145 |
| Reading for Fun | 38% | 27% | 35% | 2,105 |
| Household Chores | 40% | 28% | 32% | 1,810 |
| Practicing Musical Instrument | 39% | 27% | 34% | 1,475 |
| Arts & Crafts | 40% | 28% | 32% | 1,372 |

With regard to family composition (see Table 5), children were grouped based on those who lived with dual parents, with a single parent, with two or less adults (e.g., one parent and an aunt), and with three or more adults (e.g., both parents and an uncle). It should be noted that the percentage of children who participated in programs/activities was higher for children who lived with dual parents ($n$ = 1,475) and children who lived with three or more adults ($n$ = 777) compared to children who lived with a single parent ($n$ = 243) or two or less adults ($n$ = 235). This led to the disproportionate percentages presented in the table.

Table 5
*Frequency of Children who Participated in Structured Programs and Free-Time Activities by Family Composition*

| OST Variable | Dual Parents | Single Parent | 2 or Less Adults | 3 or More Adults | *N* |
|---|---|---|---|---|---|
| **Structured Programs** | | | | | |
| Educational Lessons | 47% | 8% | 9% | 36% | 951 |
| Art or Music Lessons | 57% | 8% | 8% | 27% | 984 |
| Individual Sports | 54% | 8% | 10% | 28% | 1,103 |
| Team Sports | 58% | 7% | 9% | 26% | 859 |
| **Free-Time Activities** | | | | | |
| Sports/Exercise for Fun | 56% | 8% | 9% | 27% | 1,523 |
| Watch T.V. | 53% | 9% | 9% | 29% | 2,287 |
| Video/Computer Games | 53% | 8% | 9% | 30% | 2,072 |
| Instant Message | 51% | 9% | 9% | 31% | 1,148 |
| Read for Fun | 55% | 9% | 8% | 28% | 2,107 |
| Household Chores | 54% | 9% | 9% | 28% | 1,813 |
| Practice Musical Instrument | 54% | 8% | 8% | 30% | 1,476 |
| Arts & Crafts | 55% | 8% | 9% | 28% | 1,373 |

**Relations among OST structured programs and free-time activities.** Table 6 shows zero-order correlations among OST program/activity variables. Phi correlations were calculated for all OST structured program and free-time activity variables because all variables were nominal (Guilford, 1965; Salkind, 2007). Each structured program and free-time activity were coded as 0 and 1 wherein 0 refers to children who did not endorse the program/activity, and 1 refers to children who endorsed the program/activity. As can be seen, significant associations were found among most of the variables.

Due to the large sample size, statistical power was strong and the risk of a Type II error occurring was reduced. Nonetheless, Type I error remains a risk because even a small difference may yield a significant finding with a large sample, and when many correlations are being tested

(Davies & Crombie, 2009; du Prel, Hommel, Rohrig, & Blettner, 2009). Accordingly, the *p*-value of .05 was modified to a more conservative *p*-value of .01. The correlation results should be interpreted with caution and are presented as a conceptual illustration of the direction and association among the variables. Indeed, these correlational findings indicate the likelihood for participation in multiple OST structured programs and free-time activities and support the need for further analyses to identify patterns of participation across varying OST programs and activities.

Associations were explored for structured programs. All structured programs were significantly and positively correlated with one another. Free-time activities were explored and the majority of free-time activities were significantly and positively correlated with one another. However, practicing an instrument and playing video/computer games were significantly and negatively correlated. Examination of the association between structured programs and free-time activities showed mostly significant and positive correlations. The strongest positive correlation was between art/music lessons and practicing an instrument. These correlation coefficients demonstrated primarily significant and positive associations that were further examined with cluster analysis, and hierarchical multiple regression analysis.

Table 6

*Relations Among Structured Programs and Free-Time Activities*

| Variables | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. | 10. | 11. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Educational Lessons | - | | | | | | | | | | |
| 2. Art/Music Lessons | .23** | - | | | | | | | | | |
| 3. Individual Sports | .22** | .25** | - | | | | | | | | |
| 4. Team Sports | .06** | .17** | .20** | - | | | | | | | |
| 5. Sports / Exercise for Fun | .10** | .14** | .27** | .24** | - | | | | | | |
| 6. Watching Television | .01 | -.02 | .01 | .06* | .13** | - | | | | | |
| 7. Playing Video Games | .01 | -.05 | .02 | .08** | .12** | .31** | - | | | | |
| 8. Instant Messaging | .09** | .07** | .06** | .03 | .10** | .13** | .19** | - | | | |
| 9. Reading for Fun | .07** | .15** | .10** | .06** | .18** | .04 | -.01 | .07** | - | | |
| 10. Household Chores | .05* | .11** | .09** | .10** | .22** | .10** | .05* | .12** | .22** | - | |
| 11. Practicing Instrument | .12** | .43** | .14** | .07** | .15** | -.01 | -.04 | .08** | .21** | .14** | - |
| 12. Arts & Crafts | .07** | .18** | .12** | .07** | .22** | .09** | .05* | .13** | .22** | .25** | .13** |

*Note.* Structured program and free-time activity variables were coded as 0, 1 with 1 referring to children endorsing participation in the program/activity.

*$p < .01$. **$p < .001$.

**Relations among the Five Cs of PYD.** Table 7 shows zero-order correlations among the Five Cs of PYD. Each indicator of positive functioning, categorized under the Five Cs, reflects a mean composite score of three items, with the exception of overall health that represents the mean score of one item. The *p*-value was also modified for this set of correlations to a level of .01. The correlation results are presented as a conceptual illustration of the direction and association among the outcome variables. As can be seen, significant and positive associations were found among all of the Five Cs of PYD. The strongest positive correlation was found between connections with adults to connections with peers, followed by a strong positive correlation between academic self-efficacy and general self-concept. These correlation coefficients demonstrated significant and positive associations that were further examined in relation to children's participation in structured programs and free-time activities with hierarchical multiple regression analysis.

Table 7
*Relations Among the Five Cs of PYD*

| Variables | 1. | 2. | 3. | 4. | 5. | 6. |
|---|---|---|---|---|---|---|
| 1. Academic Self-Efficacy | - | | | | | |
| 2. Overall Health | .30** | - | | | | |
| 3. General Self-Concept | .48** | .34** | - | | | |
| 4. Connection - Adults | .47** | .31** | .45** | - | | |
| 5. Connection - Peers | .47** | .29** | .42** | .49** | - | |
| 6. Prosocial Behaviour | .33** | .14** | .37** | .35** | .29** | - |
| 7. Empathy | .37** | .14** | .39** | .35** | .27** | .47** |

*$p < .01$. **$p < .001$.

## Cluster and Regression Analyses Examining Patterns of OST Programs and Activities in Relation to the Five Cs of PYD

In this section, the results are presented in the order of research questions for the present study. The first question is addressed with two-step cluster analysis, and the second and third questions are addressed with hierarchical multiple regression analysis.

**Identification of OST participation profile groups.** Research Question 1 asked: what are the patterns of participation when structured programs and free-time activities are combined? To identify these patterns, a two-step cluster analytic technique was used. A two-step cluster analysis was chosen over hierarchical cluster analysis and k-means cluster analysis because the two-step cluster analysis can accommodate large sample sizes and include both continuous and categorical variables, and the number of profile groups does not need to be determined a priori (Hair & Black, 1998; SPSS Technical Report, 2001).

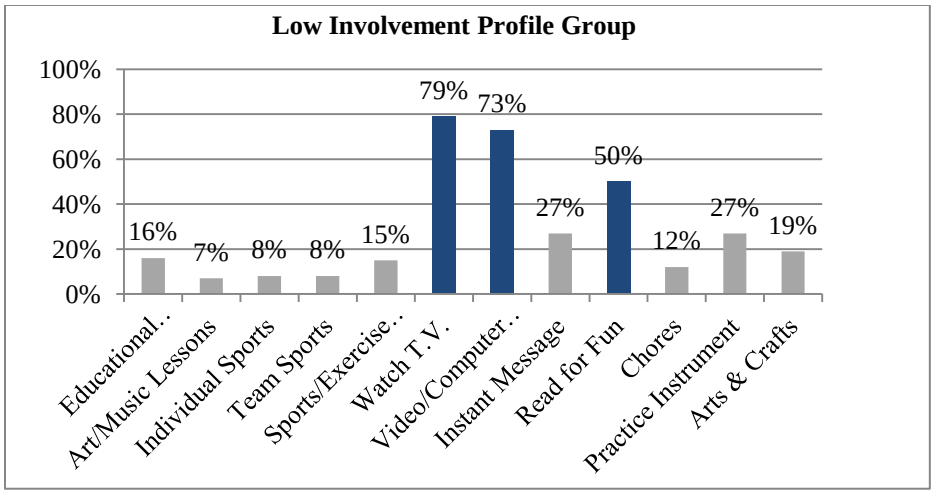
A preliminary examination of clusters was created based on the default number of clusters automatically generated by the SPSS program. The algorithm determines the "best" number of clusters by using the criterion specified by the Bayesion Information Criterion (BIC; SPSS Technical Report, 2001). All 12 of the OST dichotomous variables were entered resulting in a total of two clusters (i.e., profile groups) that were produced. One profile group included 32% ($n$ = 888) of the sample with children who participated in all OST structured programs and free-time activities minus educational lessons. The second profile group included 33% ($n$ = 895) of the sample with children who participated in four free-time activities: household chores, reading for fun, watching television, and video/computer games. A total of 35% ($n$ = 958) of children fell into the outlier group in that frequency of participation was 50% for each of the 12 OST structured programs and free-time activities. Despite "noise handling" (which was set at

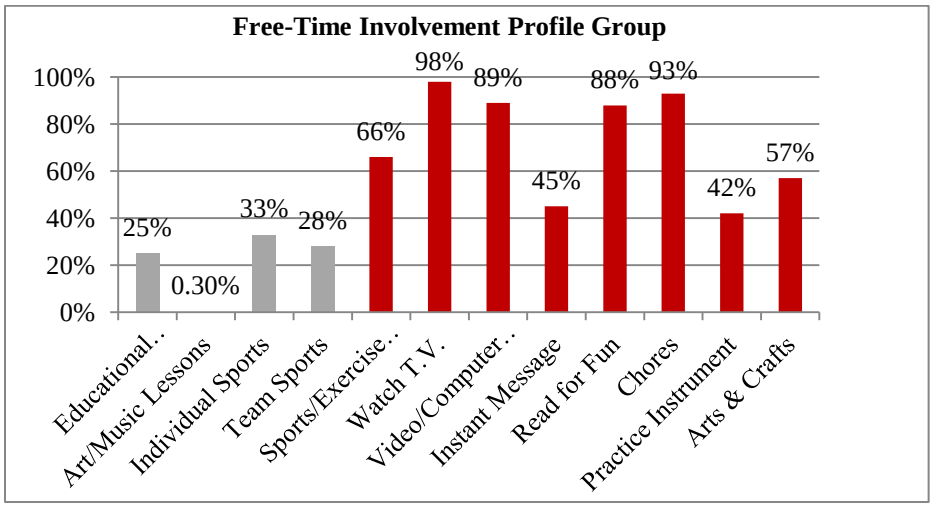
10% and is an option that allows for the profile groups to form more differentiated groups), the rate of participation in the OST programs and activities in each of the two profile groups overlapped considerably and did not reflect distinctive enough patterns of participation to allow for more sensitive analyses.

In order to discriminate the profile groups further, a new set of clusters was conducted with a pre-determined number of three profile groups. The two-step clustering technique provides an option for the researcher to specify the number of clusters that the algorithm should consider (SPSS Technical Report, 2001). Linver and colleagues (2009) state that pre-determination of the number of profile groups is at the researcher's discretion, although should be guided by numerical indicators. The three profile groups were more evenly distributed with a "fair*"* rating of cluster quality, and a ratio size of 1.83 (a ratio of 3 or less is recommended that indicates that no profile group is disproportionately larger than the other profile groups). The first profile group included 20% ($n$ = 553) of children who participated in watching television, playing video/computer games, and reading for fun (identified from here on as the *low involvement profile group*). The second profile group included 35% ($n$ = 945) of children who participated in all eight of the free-time activities (identified from here on as the *free-time involvement profile group*). The third profile group included 25% ($n$ = 695) of children who participated in all 12 of the OST structured programs and free-time activities (identified from here on as the *high involvement profile group*). The 10% "noise handling" was included in this set and a total of 20% ($n$ = 548) of children were identified as outliers that represented 50% participation rate in every OST variable, and were subsequently removed from further analyses. The primary focus of this study was to examine the differences among distinctive groups of children who participated in various OST programs and/or activities; therefore, a group of

children who participated in all programs and activities with a 50% participation rate in each program and activity was not distinctive enough for the purpose of the study, and thus was extraneous to the goals of the study. The final sample size used for subsequent analyses was 2,193.

An illustration of the type of programs and activities in each profile group is presented in Figure 3. As can be seen, high participation in each profile group was characterized by participation exceeding 40% in each program or activity (darker bars). The low involvement profile group displays children who predominantly participated in watching television ($n$ = 436, or 79%), playing video/computer games ($n$ = 404, or 73%), and reading for fun ($n$ = 275, or 50%) in comparison to involvement in all other programs and activities ranging from 7% to 27% participation. The free-time involvement profile group displays children who frequently participated in all eight free-time activities ranging from 42% ($n$ = 402) to 98% ($n$ = 927) relative to participation in structured programs ranging from 0.3% ($n$ = 3) to 33% ($n$ = 314). The high involvement profile group includes children who participated in all 12 structured programs and free-time activities ranging from 48% ($n$ = 331) to 98% ($n$ = 680). In regards to the low involvement and the free-time involvement profile groups, the names of the profile groups are labeled to reflect the highest frequency of participation in the programs/activities, but it should be noted that the labels do not sufficiently capture the lesser frequencies of participation in other programs/activities.



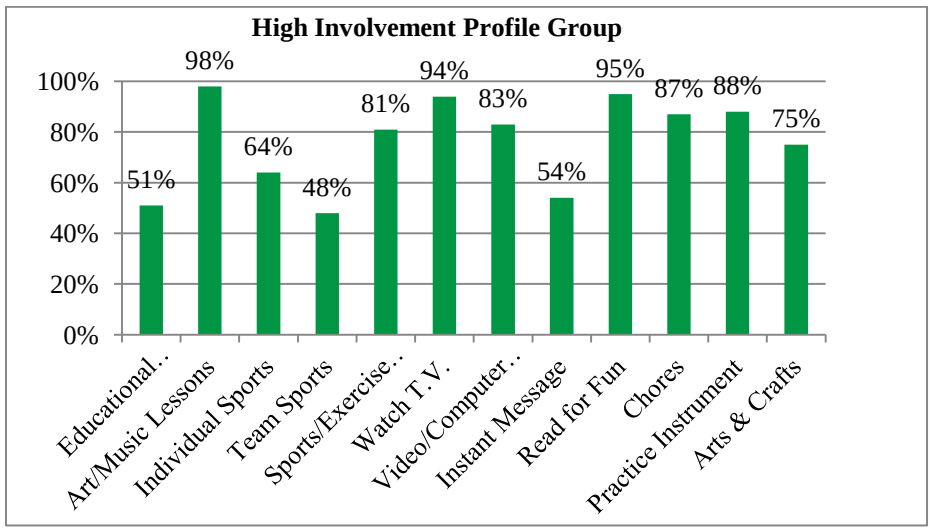




*Figure 3*. Patterns of participation in structured programs and free-time activities: Low involvement profile group $n$ = 553; Free-time involvement profile group $n$ = 945; High involvement profile group $n$ = 695.

***Profile group descriptives.*** Descriptive statistics were computed to demonstrate means, standards deviations, and correlations for the association of profile groups to the Five Cs of PYD. Percentages were also computed to provide descriptive statistics of the profile groups in relation to individual-, family-, and neighbourhood-level characteristics. Table 8 displays the percentage of children within each profile group organized by gender, language, family composition, and SES groups (low, medium, high). Regarding gender, the largest difference was found in the low involvement profile group with more boys than girls in this group. Regarding language, the largest difference was found in the high involvement profile group with children who spoke only English showing a larger percentage than children who were bilingual and ESL. Regarding family composition, the largest difference was found with children who live with both parents showing larger percentages in each of the profile groups compared to all other children. Regarding SES, the largest difference was found in the low involvement profile group with children in the low income group showing a larger percentage than children in the medium or high income groups.

Table 8
*Percentages for Demographic Characteristics Within Each Profile Group*

| Demographic Variables | Low Involvement Profile Group | Free-Time Involvement Profile Group | High Involvement Profile Group |
|---|---|---|---|
| **Gender** | | | |
| Boys | 65% | 51% | 44% |
| Girls | 35% | 49% | 56% |
| **First Language Learned** | | | |
| English only | 37% | 39% | 42% |
| Bilingual | 24% | 29% | 26% |
| ESL | 38% | 32% | 32% |
| **Family Composition** | | | |
| Dual Parents | 53% | 53% | 56% |
| Single Parent | 9% | 10% | 8% |
| 2 or less Adults (no dual parent combinations) | 8% | 9% | 7% |
| 3 or more Adults | 30% | 29% | 29% |
| **SES – Median Equivalized Disposable Income** | | | |
| Low (<$23,455) | 61% | 55% | 39% |
| Medium ($23,456-$29,848) | 18% | 23% | 25% |
| High (>$29,849) | 21% | 22% | 36% |
| ***N*** | 553 | 945 | 695 |

Table 9 displays an alternate way to view the percentage of children in each profile group by illustrating the percentage of demographic characteristics across the profile groups. As can be seen, the largest percentage of children was found in the free-time involvement profile group for each of the demographic characteristics. However, a higher percentage of children in the high income group were in the high involvement profile group compared to children in the low involvement profile group and the free-time involvement profile group.

Table 9
*Percentages for Demographic Characteristics Across Each Profile Group*

| Demographic Variables | Low Involvement Profile Group | Free-Time Involvement Profile Group | High Involvement Profile Group | *N* |
|---|---|---|---|---|
| **Gender** | | | | |
| Boys | 31% | 42% | 27% | 1,140 |
| Girls | 19% | 44% | 37% | 1,052 |
| **First Language Learned** | | | | |
| English only | 24% | 42% | 34% | 862 |
| Bilingual | 23% | 47% | 30% | 587 |
| ESL | 29% | 41% | 30% | 731 |
| **Family Composition** | | | | |
| Dual Parents | 25% | 42% | 33% | 1,165 |
| Single Parent | 26% | 46% | 28% | 201 |
| 2 or less Adults (no dual parent combinations) | 24% | 48% | 28% | 177 |
| 3 or more Adults | 26% | 43% | 31% | 642 |
| **SES – Median Equivalized Disposable Income** | | | | |
| Low (<$23,455) | 30% | 46% | 24% | 1,123 |
| Medium ($23,456-$29,848) | 20% | 45% | 35% | 480 |
| High (>$29,849) | 20% | 36% | 44% | 563 |

As seen in Table 10, children in the low involvement profile group showed lower average response scores than children in the free-time involvement profile group and children in the high involvement profile group. Children in the free-time involvement profile group showed higher average response scores than children in the low involvement profile group, but lower average response scores than children in the high involvement profile group.

Table 10
*Means and Standard Deviations (SD) of Profile Groups and Positive Functioning Outcomes*

| Outcome Variable | Low Involvement Profile Group | | | Free-Time Involvement Profile Group | | | High Involvement Profile Group | | |
|---|---|---|---|---|---|---|---|---|---|
| | ***Mean*** | ***SD*** | ***N*** | ***Mean*** | ***SD*** | ***N*** | ***Mean*** | ***SD*** | ***N*** |
| **Competence** | | | | | | | | | |
| Academic Self-Efficacy | 3.71 | .95 | 549 | 4.02 | .81 | 935 | 4.21 | .73 | 687 |
| Overall Health | 3.23 | .68 | 552 | 3.35 | .67 | 942 | 3.46 | .61 | 690 |
| **Confidence** | | | | | | | | | |
| General Self-Concept | 3.84 | .79 | 550 | 4.08 | .69 | 936 | 4.17 | .68 | 689 |
| **Connection** | | | | | | | | | |
| Connection to Adults | 2.82 | .66 | 533 | 3.09 | .58 | 922 | 3.22 | .56 | 664 |
| Connection to Peers | 3.64 | .99 | 547 | 3.95 | .85 | 928 | 4.10 | .77 | 682 |
| **Character** | | | | | | | | | |
| Prosocial Behaviour | 2.37 | .80 | 547 | 2.77 | .74 | 937 | 2.85 | .74 | 691 |
| **Caring** | | | | | | | | | |
| Empathy | 3.33 | .95 | 541 | 3.68 | .86 | 927 | 3.77 | .86 | 681 |

As seen in Table 11, tests of biserial correlations were conducted to partial out the effects of demographic characteristics in order to determine how profile groups were initially related to the Five Cs of PYD. The *p*-value was adjusted using the Bonferroni correction method by dividing the *p*-value of .05 by the number of outcome variables resulting in a *p*-value of .007. Results showed that the high involvement profile group was significantly and positively correlated with each of the Five Cs of PYD. The free-time involvement profile group showed no significant correlations except with prosocial behaviour and empathy, which were positively correlated. The low involvement profile group showed significant and negative correlations with

each of the Five Cs of PYD. These findings offer motivation to further explore the relation between profile groups and the Five Cs of PYD after controlling for individual-, family-, and neighbourhood-level characteristics. Additionally, the associations between the high involvement profile group to each of the Five Cs of PYD were consistently significant and positively correlated. In subsequent analyses using hierarchical multiple regressions, the high involvement profile group was considered to be a substantive group to explore the differences in levels of positive functioning in comparison to the low involvement profile group and the free-time involvement profile group.

**Relation of profile groups to the Five Cs of PYD.** Research question 2 asked: how will each profile group of children's participation in structured programs and/or free-time activities compare to one another in relation to the Five Cs of PYD, and after controlling for individual-, family-, and neighbourhood-level characteristics (i.e., gender, language, family composition, SES)? Hierarchical multiple regressions were used to test if the profile groups were significantly associated with children's ratings on the Five Cs of PYD. Due to the large sample size of the current study, confidence intervals at 95% were reported to provide a range of values that were likely to occur in the population based on the sample estimates (Cox & Hinkley, 1974; Davies & Crombie, 2009). The *p*-values were reported for regression results, but attention should be given to the confidence intervals and effect sizes presented as adjusted *R*-squared values (Davies & Crombie, 2009; du Prel et al., 2009).

Table 11
*Partial Correlations Among Profile Groups and the Five Cs of PYD*

| Variables | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
|---|---|---|---|---|---|---|---|---|---|
| 1. Low Involvement Profile Group | - | | | | | | | | |
| 2. Free-Time Involvement Profile Group | -.52* | - | | | | | | | |
| 3. High Involvement Profile Group | -.37* | -.60* | - | | | | | | |
| 4. Academic Self-Efficacy | -.18* | .03 | .14* | - | | | | | |
| 5. Overall Health | -.08* | -.01 | .08* | .30* | - | | | | |
| 6. General Self-Concept | -.13* | .04 | .08* | .49* | .36* | - | | | |
| 7. Connection - Adults | -.20* | .04 | .15* | .48* | .31* | .46* | - | | |
| 8. Connection - Peers | -.17* | .05 | .11* | .51* | .27* | .44* | .51* | - | |
| 9. Prosocial Behaviour | -.24* | .09* | .12* | .31* | .16* | .28* | .36* | .31* | - |
| 10. Empathy | -.17* | .08* | .08* | .37* | .16* | .34* | .36* | .28* | .43* |

*Note*. All controls were partialled out. Bonferroni correction was applied. Profile groups were coded as 0, 1 with 1 referring to children who were part of the profile group. Indicators of positive functioning that include the Five Cs of PYD reflect mean composite scores.
*$p < .007$.

***Comparison of profile groups.*** The profile groups were entered in the first block of the regression analysis with the high involvement profile group as the reference group for comparison to the low involvement and free-time involvement profile groups. The reference group is determined arbitrarily but is typically selected based on a sufficient amount of cases, a well-defined group, and/or the scores are in the upper or lower boundary or in the midrange of

values (Hardy, 1993). In the current study, the high involvement profile group was selected as the reference group because it is a well-defined group where children in this group participated in both OST structured programs and free-time activities (see Bartko & Eccles, 2003; Fredricks & Eccles, 2006a; Linver et al., 2009; Mahoney, Lord et al., 2005; Morris & Kalil, 2006), which allowed for a substantive comparison to the low involvement profile group and free-time involvement profile group. Comparisons between variables and their reference groups included: low involvement profile group vs. high involvement profile group; free-time involvement profile group vs. high involvement profile group; ESL vs. English only; bilingual vs. English only; single parent vs. dual parents; 2 or less adults vs. dual parents; 3 or more adults vs. dual parents. Although an ANOVA (or an ANCOVA when control variables are included) are analogous to a regression analysis, the hierarchical multiple regression analysis was chosen for the current study in order to present unstandardized and standardized coefficients, as well as *R*-squared and adjusted *R*-squared values.

Overall, results indicated that the low involvement profile group and the free-time involvement profile group were each associated with mostly significantly lower levels of positive functioning in comparison to the high involvement profile group. Tables 12 through 18 display the *R*-squared and adjusted *R*-squared values for each block, including unstandardized beta, standard error, and standardized beta values, and confidence intervals for each profile group in relation to the Five Cs of PYD.

The adjusted *R*-squared values represent the percentage of variance in the Five Cs of PYD (outcome variable) that is accounted for by association in the profile groups (predictor variable). In the first block, the profile groups explained as low as 1.7% and as high as 6.1% of the variance in each outcome variable, demonstrating medium effect sizes for each outcome

variable (see Tables 12 – 18). The lowest variance is reflective of the overall health outcome, which is a one-item Likert-type variable, whereas the lowest variance for a construct (composite score of three or more items) is 2.7% for general self-concept.

*Low involvement profile group compared to high involvement profile group.* In general, children who participated in only a few free-time activities (i.e., low involvement profile group that included watching television, playing video/computer games, and reading for fun) showed significantly lower scores on all outcome variables than children who participated in all OST structured programs and free-time activities (i.e., high involvement profile group). In particular, reports on academic self-efficacy were significantly lower for children in the low involvement profile group than children in the high involvement profile group (see Table 12). Children's level of perceived overall health was significantly lower for children in the low involvement profile group than children in the high involvement profile group (see Table 13). Children's level of general self-concept was significantly lower for children in the low involvement profile group than children in the high involvement profile group (see Table 14). Similarly, reports on connections to adults and to peers were significantly lower for children in the low involvement profile group than children in the high involvement profile group (see Table 15 and 16). Children's level of prosocial behaviour was significantly lower for children who participated in only a few free-time activities than children who participated in all OST programs and activities (see Table 17). Lastly, children's level of empathy was significantly lower for children in the low involvement profile group than children in the high involvement profile group (see Table 18).

*Free-time involvement profile group compared to high involvement profile group.* In general, children who participated in all eight free-time activities (i.e., free-time involvement profile group) showed significantly lower scores or no significant difference in comparison to

children who participated in all OST structured programs and free-time activities (i.e., high involvement profile group; see Tables 12 – 18). Reports on academic self-efficacy were significantly lower for children in the free-time involvement profile group than children in the high involvement profile group. Children's level of perceived overall health was significantly lower for children in the free-time involvement profile group than children in the high involvement profile group. Children's level of general self-concept was significantly lower for children in the free-time involvement profile group in comparison to children in the high involvement profile group. Reports on connections to adults and to peers were significantly lower for children in the free-time involvement profile group than children in the high involvement profile group. Children's level of prosocial behaviour was also significantly lower for children in the free-time involvement profile group than children in the high involvement profile group. Finally, children's level of empathy was not significantly different when comparing children in the free-time involvement profile group to children in the high involvement profile group.

***Comparison of profile groups after controlling for demographic characteristics.*** All control variables (gender, language, family composition, SES) were entered in the second block. Categorical variables (language, family composition, and profile groups) were dummy coded to convey information on group membership. The language variable included (a) children who spoke English as a second language (ESL), (b) children who spoke English plus another language (Bilingual), and (c) children who spoke only English. Children who only spoke English were chosen as the reference group. The family composition variable included (a) children who lived with a single parent, (b) children who lived with dual parents, (c) children who lived with two or less adults (e.g., one parent and an aunt), and (d) children who lived with three or more

adults (e.g., both parents and an aunt). Children who lived with dual parents were chosen as the reference group. For ease of interpretation, the SES variable was used where tertile scores represent low, medium, and high median equivalized disposable income. Gender (a dichotomous variable) was entered as is. Tables 12 through 18 display the unstandardized beta, standard error, and standardized beta values, and confidence intervals for each profile group in relation to the Five Cs of PYD after controlling for individual-, family-, and neighbourhood-level characteristics.

In the second block, the profile groups explained as low as 4.3% and as high as 10% of the variance in each outcome variable after taking into account the individual-, family-, and neighbourhood-level characteristics (see Tables 12 – 18). The variance demonstrates medium to large effect sizes for each outcome variable. The lowest variance is reflective of the overall health one-item variable, whereas the lowest variance for a construct is 5.8% for academic self-efficacy. Figure 4 illustrates a graphical representation of the regression analysis by presenting the estimated marginal mean values between each profile group in relation to each of the Five Cs of PYD.

*Low involvement profile group compared to high involvement profile group after controlling for characteristics.* Overall, children in the low involvement profile group showed significantly lower scores on all outcome variables than children in the high involvement profile group above and beyond the control variables. Specifically, reports on academic self-efficacy were significantly lower for children in the low involvement profile group than children in the high involvement profile group (see Table 12). Children's level of perceived overall health was significantly lower for children in the low involvement profile group than children in the high involvement profile group (see Table 13). Children's level of general self-concept was

significantly lower for children in the low involvement profile group than children in the high involvement profile group (see Table 14). Further, reports on connections to adults and to peers were significantly lower for children in the low involvement profile group than children in the high involvement profile group (see Table 15 and 16). Children's level of prosocial behaviour was significantly lower for those in the low involvement profile group compared to children in the high involvement profile group (see Table 17). Lastly, children's level of empathy was significantly lower for children in the low involvement profile group than children in the high involvement profile group (see Table 18).

Effect sizes were calculated between the low involvement profile group and the high involvement profile group to determine the strength of the relationship (i.e., difference between two means) between the profile groups in relation to the Five Cs of PYD. Overall, the strength of the relationship between the two profile groups ranged from small to medium. A small effect was shown between the two profile groups in relation to overall health ($d$ = .24), general self-concept ($d$ = .33), and empathy ($d$ = .38). A medium effect was shown in relation to academic self-efficacy ($d$ = .55), connection to adults ($d$ = .56), connection to peers ($d$ = .48), and prosocial behaviour ($d$ = .55).

*Free-time involvement profile group compared to high involvement profile group after controlling for characteristics.* Overall, children in the free-time involvement profile group showed significantly lower scores, or no significant difference, in comparison to children in the high involvement profile group above and beyond the control variables (see Tables 12 – 18). Reports on academic self-efficacy were significantly lower for children in the free-time involvement profile group than children in the high involvement profile group. Children's level of perceived overall health was significantly lower for children in the free-time involvement

profile group than children in the high involvement profile group. However, children's level of general self-concept was not significantly different for children in the free-time involvement profile group in comparison to children in the high involvement profile group. Reports on connections to adults and to peers were significantly lower for children in the free-time involvement profile group than children in the high involvement profile group. Children's level of prosocial behaviour was also significantly lower for children in the free-time involvement profile group than children in the high involvement profile group. Finally, children's level of empathy was not significantly lower for those in the free-time involvement profile group than children in the high involvement profile group.

Effect sizes were calculated between the free-time involvement profile group and the high involvement profile group to determine the strength of the relationship (i.e., difference between two means) between the profile groups in relation to the Five Cs of PYD. Overall, the strength of the relationship between the two profile groups was small. Specifically, a small effect was shown between the two profile groups in relation to academic self-efficacy ($d$ = .19), overall health ($d$ = .10), connection to adults ($d$ = .17), connection to peers ($d$ = .13), and prosocial behaviour ($d$ = .07). Children in the free-time involvement profile group and children in the high involvement profile group showed no significant difference in relation to general self-concept and empathy, but the effect sizes were $d$ = .09 and $d$ = .05, respectively.

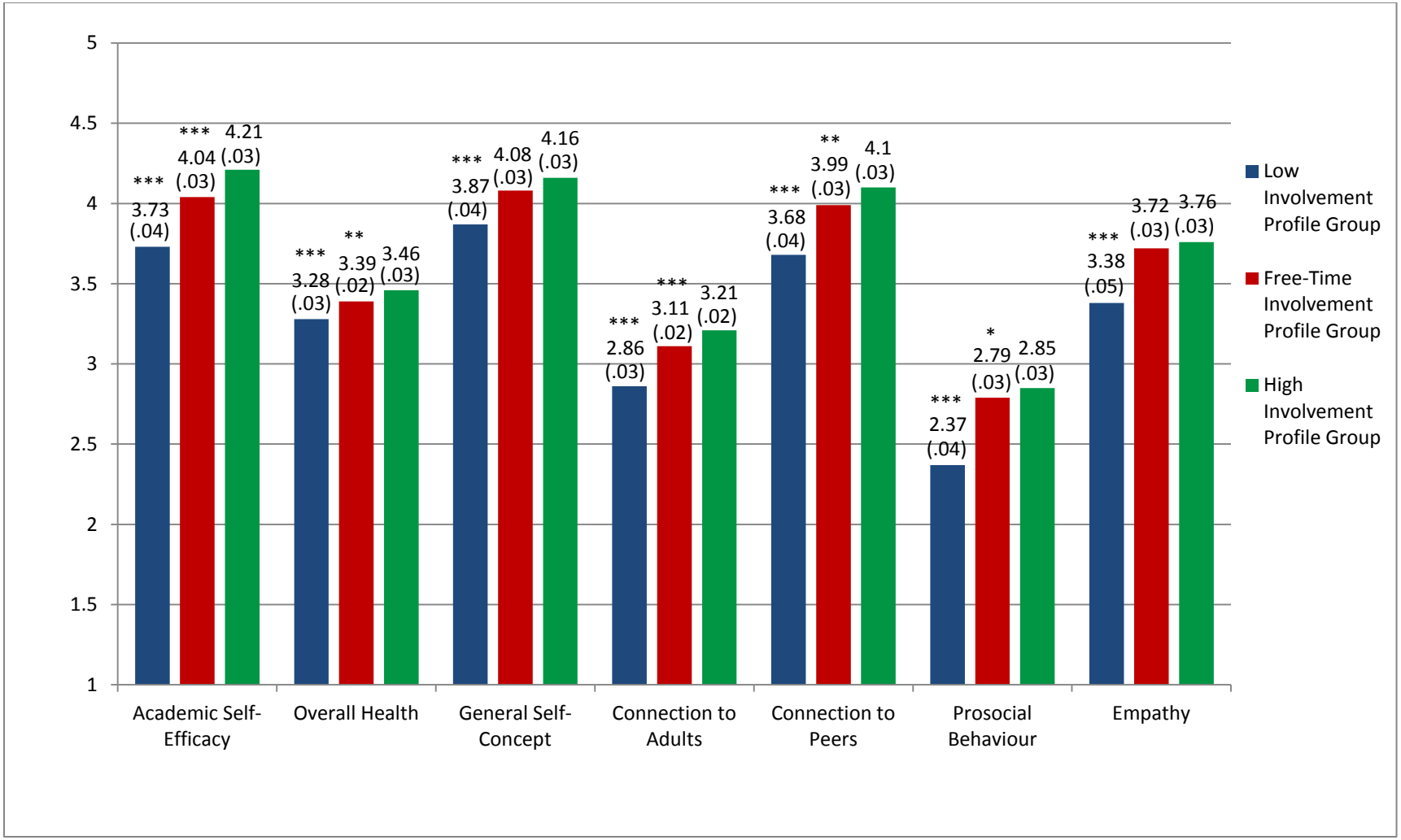



*Figure 4*. Estimated marginal mean values of each profile group in relation to indicators of positive functioning that include the Five Cs of PYD. Values in parentheses represent the standard error of the mean. Asterisks above the low involvement profile group represent the *p*-values that were significant in comparison to the high involvement profile group. Asterisks above the free-time involvement profile group represent the *p*-values that were significant in comparison to the high involvement profile group.
* $p < .05$, ** $p < .01$, *** $p < .001$.

Table 12

*Summary of Regressions Examining the Profile Groups and Control Variables in Relation to Academic Self-Efficacy*

| | Block 1 | | | | Block 2 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Variable** | ***B*** | ***SE*** | ***β*** | **95% *CI*** | ***B*** | ***SE*** | ***β*** | **95% *CI*** | $R^2$ | $R^2_{adj}$ |
| **Low Involvement Profile Group** | -.506 | .048 | -.260*** | -.600, -.412 | -.477 | .049 | -.245*** | -.573, -.381 | .051 | .050*** |
| **Free-Time Involvement Profile Group** | -.188 | .042 | -.110*** | -.270, -.106 | -.169 | .042 | -.099*** | -.252, -.086 | | |
| **Gender** | | | | | .056 | .036 | .033 | -.015, .127 | .061 | .057*** |
| **ESL** | | | | | -.067 | .043 | -.037 | -.152, .018 | | |
| **Bilingual** | | | | | -.023 | .046 | -.012 | -.114, .067 | | |
| **Single Parent** | | | | | -.126 | .064 | -.043 | -.251, .000 | | |
| **2 or Less Adults** | | | | | -.244 | .068 | -.078*** | -.377, -.110 | | |
| **3 or More Adults** | | | | | -.087 | .042 | -.047* | -.169, -.005 | | |
| **SES**[a] | | | | | .025 | .022 | .025 | -.019, .069 | | |

* $p < .05$, ** $p < .01$, *** $p < .001$.

*Note*. *B* = beta value, *SE* = standard error, *β* = standardized beta, *CI* = Confidence intervals, lower and upper limits. Reference groups included: High Involvement Profile Group, English Only, and Dual Parents. These groups were used to compare with the corresponding variables.

[a]SES is grouped in tertile scores of low, medium, and high.

Table 13

*Summary of Regressions Examining the Profile Groups and Control Variables in Relation to Overall Health*

| | Block 1 | | | | Block 2 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Variable** | ***B*** | ***SE*** | ***β*** | **95% *CI*** | ***B*** | ***SE*** | ***β*** | **95% *CI*** | $R^2$ | $R^2_{adj}$ |
| **Low Involvement Profile Group** | -.236 | .038 | -.156*** | -.310, -.163 | -.193 | .038 | -.128*** | -.268, -.118 | .018 | .017*** |
| **Free-Time Involvement Profile Group** | -.113 | .033 | -.085*** | -.178, -.048 | -.088 | .033 | -.067** | -.153, -.023 | | |
| **Gender** | | | | | .044 | .028 | .033 | -.012, .100 | .043 | .039*** |
| **ESL** | | | | | -.143 | .034 | -.103*** | -.209, -.077 | | |
| **Bilingual** | | | | | -.039 | .036 | -.026 | -.110, .032 | | |
| **Single Parent** | | | | | -.004 | .050 | -.002 | -.103, .094 | | |
| **2 or Less Adults** | | | | | -.007 | .053 | -.003 | -.111, .096 | | |
| **3 or More Adults** | | | | | -.082 | .033 | -.057* | -.146, -.018 | | |
| **SES**[a] | | | | | .065 | .017 | .084*** | .031, .099 | | |

* $p < .05$, ** $p < .01$, *** $p < .001$.

*Note*. *B* = beta value, *SE* = standard error, *β* = standardized beta, *CI* = Confidence intervals, lower and upper limits. Reference groups included: High Involvement Profile Group, English Only, and Dual Parents. These groups were used to compare with the corresponding variables.

[a]SES is grouped in tertile scores of low, medium, and high.

Table 14

*Summary of Regressions Examining the Profile Groups and Control Variables in Relation to General Self-Concept*

| | Block 1 | | | | Block 2 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Variable** | ***B*** | ***SE*** | ***β*** | **95% *CI*** | ***B*** | ***SE*** | ***β*** | **95% *CI*** | $R^2$ | $R^2_{adj}$ |
| **Low Involvement Profile Group** | -.316 | .041 | -.190*** | -.397, -.236 | -.257 | .042 | -.155*** | -.339, -.175 | .028 | .027*** |
| **Free-Time Involvement Profile Group** | -.086 | .036 | -.059* | -.157, -.016 | -.061 | .036 | -.042 | -.131, .010 | | |
| **Gender** | | | | | .153 | .031 | .106*** | .093, .214 | .062 | .058*** |
| **ESL** | | | | | -.223 | .037 | -.146*** | -.296, -.151 | | |
| **Bilingual** | | | | | -.083 | .039 | -.051* | -.160, -.006 | | |
| **Single Parent** | | | | | -.055 | .055 | -.022 | -.162, .052 | | |
| **2 or Less Adults** | | | | | -.079 | .058 | -.030 | -.192, .033 | | |
| **3 or More Adults** | | | | | -.060 | .035 | -.038 | -.130, .010 | | |
| **SES**[a] | | | | | .032 | .019 | .037 | -.005, .069 | | |

* $p < .05$, ** $p < .01$, *** $p < .001$.

*Note*. *B* = beta value, *SE* = standard error, *β* = standardized beta, *CI* = Confidence intervals, lower and upper limits. Reference groups included: High Involvement Profile Group, English Only, and Dual Parents. These groups were used to compare with the corresponding variables.

[a]SES is grouped in tertile scores of low, medium, and high.

Table 15

*Summary of Regressions Examining the Profile Groups and Control Variables in Relation to Connection with Adults*

| | Block 1 | | | | Block 2 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Variable** | ***B*** | ***SE*** | ***β*** | **95% *CI*** | ***B*** | ***SE*** | ***β*** | **95% *CI*** | $R^2$ | $R^2_{adj}$ |
| **Low Involvement Profile Group** | -.405 | .035 | -.286*** | -.474, -.336 | -.355 | .035 | -.251*** | -.425, -.286 | .062 | .061*** |
| **Free-Time Involvement Profile Group** | -.128 | .031 | -.103*** | -.188, -.068 | -.105 | .030 | -.084*** | -.164, -.045 | | |
| **Gender** | | | | | .093 | .026 | .076*** | .042, .145 | .100 | .096*** |
| **ESL** | | | | | -.195 | .031 | -.149*** | -.256, -.134 | | |
| **Bilingual** | | | | | -.077 | .033 | -.056* | -.142, -.013 | | |
| **Single Parent** | | | | | .024 | .046 | .011 | -.066, .114 | | |
| **2 or Less Adults** | | | | | .029 | .049 | .013 | -.068, .125 | | |
| **3 or More Adults** | | | | | -.071 | .030 | -.053* | -.130, -.012 | | |
| **SES**[a] | | | | | .053 | .016 | .072*** | .021, .084 | | |

* $p < .05$, ** $p < .01$, *** $p < .001$.

*Note*. *B* = beta value, *SE* = standard error, *β* = standardized beta, *CI* = Confidence intervals, lower and upper limits. Reference groups included: High Involvement Profile Group, English Only, and Dual Parents. These groups were used to compare with the corresponding variables.

[a]SES is grouped in tertile scores of low, medium, and high.

Table 16

*Summary of Regressions Examining the Profile Groups and Control Variables in Relation to Connection with Peers*

| | Block 1 | | | | Block 2 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Variable** | ***B*** | ***SE*** | ***β*** | **95% *CI*** | ***B*** | ***SE*** | ***β*** | **95% *CI*** | $R^2$ | $R^2_{adj}$ |
| **Low Involvement Profile Group** | -.467 | .050 | -.231*** | -.566, -.369 | -.408 | .051 | -.202*** | -.508, -.308 | .041 | .040*** |
| **Free-Time Involvement Profile Group** | -.148 | .044 | -.083*** | -.234, -.062 | -.114 | .044 | -.064** | -.201, -.027 | | |
| **Gender** | | | | | .113 | .038 | .064** | .039, .187 | .058 | .054*** |
| **ESL** | | | | | -.108 | .045 | -.058* | -.197, -.019 | | |
| **Bilingual** | | | | | -.030 | .048 | -.015 | -.124, .065 | | |
| **Single Parent** | | | | | -.151 | .067 | -.049* | -.282, -.019 | | |
| **2 or Less Adults** | | | | | -.070 | .071 | -.022 | -.208, .069 | | |
| **3 or More Adults** | | | | | -.096 | .044 | -.050* | -.182, -.011 | | |
| **SES**[a] | | | | | .069 | .023 | .066 | .023, .115 | | |

* $p < .05$, ** $p < .01$, *** $p < .001$.

*Note*. *B* = beta value, *SE* = standard error, *β* = standardized beta, *CI* = Confidence intervals, lower and upper limits. Reference groups included: High Involvement Profile Group, English Only, and Dual Parents. These groups were used to compare with the corresponding variables.

[a]SES is grouped in tertile scores of low, medium, and high.

Table 17

*Summary of Regressions Examining the Profile Groups and Control Variables in Relation to Prosocial Behaviour*

| | Block 1 | | | | Block 2 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Variable** | ***B*** | ***SE*** | ***β*** | **95% *CI*** | ***B*** | ***SE*** | ***β*** | **95% *CI*** | $R^2$ | $R^2_{adj}$ |
| **Low Involvement Profile Group** | -.485 | .044 | -.271*** | -.570, -.399 | -.467 | .045 | -.261*** | -.554, -.379 | .062 | .061*** |
| **Free-Time Involvement Profile Group** | -.080 | .038 | -.051* | -.154, -.005 | -.077 | .039 | -.049* | -.152, -.001 | | |
| **Gender** | | | | | .040 | .033 | .026 | -.025, .105 | .068 | .064*** |
| **ESL** | | | | | -.022 | .040 | -.013 | -.099, .056 | | |
| **Bilingual** | | | | | .091 | .042 | .052* | .009, .174 | | |
| **Single Parent** | | | | | .028 | .059 | .010 | -.087, .143 | | |
| **2 or Less Adults** | | | | | .093 | .062 | .032 | -.029, .214 | | |
| **3 or More Adults** | | | | | -.008 | .038 | -.005 | -.083, .066 | | |
| **SES**[a] | | | | | .023 | .020 | .025 | -.016, .063 | | |

* $p < .05$, ** $p < .01$, *** $p < .001$.

*Note*. *B* = beta value, *SE* = standard error, *β* = standardized beta, *CI* = Confidence intervals, lower and upper limits. Reference groups included: High Involvement Profile Group, English Only, and Dual Parents. These groups were used to compare with the corresponding variables.

[a]SES is grouped in tertile scores of low, medium, and high.

Table 18

*Summary of Regressions Examining the Profile Groups and Control Variables in Relation to Empathy*

| | Block 1 | | | | Block 2 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Variable** | ***B*** | ***SE*** | ***β*** | **95% *CI*** | ***B*** | ***SE*** | ***β*** | **95% *CI*** | $R^2$ | $R^2_{adj}$ |
| **Low Involvement Profile Group** | -.447 | .051 | -.215*** | -.548, -.347 | -.350 | .052 | -.169*** | -.452, -.248 | .038 | .037*** |
| **Free-Time Involvement Profile Group** | -.086 | .045 | -.047 | -.174, .003 | -.039 | .045 | -.022 | -.128, .049 | | |
| **Gender** | | | | | .260 | .039 | .144*** | .185, .336 | .071 | .067*** |
| **ESL** | | | | | -.098 | .046 | -.051* | -.189, -.008 | | |
| **Bilingual** | | | | | -.013 | .049 | -.006 | -.109, .083 | | |
| **Single Parent** | | | | | -.019 | .069 | -.006 | -.154, .115 | | |
| **2 or Less Adults** | | | | | -.029 | .072 | -.009 | -.170, .112 | | |
| **3 or More Adults** | | | | | -.083 | .044 | -.042 | -.170, .004 | | |
| **SES**[a] | | | | | .095 | .024 | .089*** | .048, .141 | | |

* $p < .05$, ** $p < .01$, *** $p < .001$.

*Note*. *B* = beta value, *SE* = standard error, *β* = standardized beta, *CI* = Confidence intervals, lower and upper limits. Reference groups included: High Involvement Profile Group, English Only, and Dual Parents. These groups were used to compare with the corresponding variables.

[a]SES is grouped in tertile scores of low, medium, and high.

**Interaction between profile groups by gender and by SES.** Research question 3 asked: is there a difference between gender for each profile group and between SES for each profile group in relation to the Five Cs of PYD? Interaction terms were created by multiplying the gender variable with each profile group, and the SES (grouped tertile scores) variable with each profile group. The new variables were entered as interaction terms (gender by profile groups; SES by profile groups) in the third block of the regression model. No significant differences were found for interactions between gender and the profile groups, and between SES and the profile groups. The interaction terms were removed from the regression tables above.

# CHAPTER 5

## Discussion

Using a person-centered approach, one of the central goals of the present study was to examine the patterns of participation in OST structured programs and free-time activities in relation to the Five Cs of PYD in a population-level sample of fourth grade children. Accordingly, OST profile groups were first generated via a clustering analytic technique, which resulted in the identification of three distinct groups: a *low involvement profile group* (i.e., children who participated in watching television, playing video/computer games, and reading for fun, which encompassed three out of a total of eight free-time activities, and none of the four structured programs), a *free-time involvement profile group* (i.e., children who participated in all eight free-time activities that included sports/exercise for fun, watching television, video/computer games, instant messaging, reading for fun, household chores, practicing musical instrument, and arts and crafts), and a *high involvement profile group* (i.e., children who participated in all four structured programs that included educational lessons, art/music lessons, individual sports, and team sports, and all eight free-time activities).

Following the cluster analysis, a series of hierarchical multiple regressions were conducted to examine differences among the OST profile groups in relation to the Five Cs of PYD (i.e., indicators of positive functioning that include academic self-efficacy, overall health, general self-concept, connection to adults, connection to peers, prosocial behaviour, and empathy) after controlling for individual-, family-, and neighbourhood-level characteristics. Building on previous research (Bartko & Eccles, 2003; Bohnert, et al., 2010; Call & Mortimer, 2001; Linver et al., 2009, Posner & Vandell, 1999; Zarrett & Lerner, 2008), findings from the current study revealed that, after taking into account individual-, family-, and neighbourhood-

level characteristics, children in the high involvement profile group (i.e., those who participated in all structured programs and free-time activities) consistently reported higher levels of positive functioning than children in the low involvement profile group in relation to the indicators of positive functioning. Moreover, children in the high involvement profile group reported higher levels of positive functioning than children in the free-time involvement profile group in relation to academic self-efficacy, overall health, connections to adults, connections to peers, and prosocial behaviour. However, children in the high involvement profile group and children in the free-time involvement profile group did not differ in levels of general self-concept and empathy. Although significant differences were found between the high involvement profile group and the free-time involvement profile group, based on effect sizes, the strongest differences were found between the high involvement profile group and the low involvement profile group in relation to the indicators of positive functioning.

At a general level, these results contribute to a growing body of research on the relationship between participation in multiple OST settings and the social, emotional, and behavioural functioning of children during middle childhood. Much of the previous research has focused on examining these associations either in relation to a limited type or number of OST settings (e.g., involvement only in structured programs) and/or in samples of high school students (e.g., Linver et al., 2009; Zarrett & Lerner, 2008). The present results add to this body of literature by providing evidence that the different ways in which elementary school children spend their time either in structured programs and/or free-time activities during the OST are differentially associated to their positive functioning framed by the Five Cs of PYD. To my knowledge, this is the first study to create profiles of OST involvement in a combination of

structured programs and free-time activities and examine them in relation to the Five Cs of PYD during middle childhood.

This chapter begins with a discussion of findings regarding the frequency of participation, breadth of participation, and relations among OST variables and demographic characteristics. In the subsequent sections, included is a discussion of the profile groups obtained via the cluster analysis and findings on the differences between each profile group in relation to the Five Cs of PYD after controlling for demographic characteristics. Note that throughout the discussion the results from the present study are contextualized in terms of previous research. Following is a discussion of the strengths of this research, and limitations and suggestions for future research, and it concludes with a discussion of the implications of the findings.

## Frequency and Breadth of Participation in OST Structured Programs and Free-Time Activities

**Frequency of participation in OST programs and activities.** In general, an analysis regarding children's self-reports of the structured programs and free-time activities in which they participated revealed a wide range of participation in each type of program and activity. For instance, a relatively large percentage (40%) of children participated in individual sports, followed by art/music lessons (36%), educational lessons (35%), and with the smallest percentage (31%) of children who participated in team sports. Marsh and Kleitman (2003) note that although children in the middle years are not as regularly involved in sports at the same level of frequency or intensity as adolescents, participation in physical sports remains developmentally beneficial for all ages.

In regards to free-time activities, the largest percentage (84%) of children participated in watching television, followed by reading for fun (77%), playing video/computer games (76%),

and with the smallest percentage (44%) who participated in instant messaging. The relatively large percentages of participation in free-time activities, particularly in watching television, reading for fun, and playing video/computer games, may be due to the time of year when the survey was administered. The survey was implemented during the winter months, which McHale and authors (2001) state is the time of year when indoor activities, such as watching television, is the most common free-time activity, whereas participation in sports and outdoor play tend to increase during the warmer months. The relatively small percentage of participation in instant messaging may be because of the age group of children (ages 8 – 11) in the current study, whereas the most frequent use of instant messaging is found among female adolescents (ages 15 – 17; Lenhart, Madden, Macgill, & Smith, 2007).

**Breadth of participation in OST programs and activities.** When exploring the breadth of participation in structured programs and the breadth of participation in free-time activities, it was found that children reported participating in multiple structured programs as well as in multiple free-time activities. With regard to participation in structured programs, 29% of children reported participating in one program and 44% of children reported participating in two or more programs (out of a total of four programs). With regard to participation in free-time activities, 37% of children reported participating in four or less activities and 63% of children reported participating in five or more (out of a total of eight activities). These findings are consistent with previous studies that showed youths generally report participating in one or more structured program (Bartko & Eccles, 2003; Bohnert et al., 2010; Fredricks & Eccles, 2006a; Linver et al., 2009; Peck et al., 2008; Theokas et al., 2006), and in multiple free-time activities during out-of-school hours (Bartko & Eccles, 2003; Csikszentmihalyi & Larson, 1984; Persson et al., 2007; Shanahan & Flaherty, 2001). For instance, Shanahan and Flaherty (2001) showed over half of

their sample (out of a total of 1,010 high school students) participated in multiple activity domains identified as time with friends, employment, homework, and structured programs, such as sports, clubs, and band. The majority of students who participated in multiple domains were involved in one or two activity domains. My findings similarly demonstrate that most children participated in multiple programs and activities and with very few children who participated in only one or none.

Participation in a greater breadth of programs and activities may be particularly essential for exploration of different interests, belongingness with peers, and formation of identity during middle childhood and into mid-adolescence (Bohnert et al., 2010; Bohnert et al., 2013; Hansen et al., 2003). Theokas and colleagues (2006) support this contention with their findings showing that participation in multiple programs is typical for children in fifth and sixth grade.

**Profile Groups of Participation in OST Structured Programs and Free-Time Activities**

As described previously, the present study used a cluster analytic technique to examine the patterns of participation in various programs and activities. The cluster analysis generated three profile groups: the low involvement profile group, the free-time involvement profile group, and the high involvement profile group. The profile groups were created by grouping together children who participated in the same types of programs and activities. The profile groups represented a range of programs and activities in which children participated. The current study showed relatively similar findings to prior studies that generated profile groups through a cluster analytic technique. For instance, Linver and colleagues (2009) generated five profile groups that displayed adolescents in: sports only cluster, sports plus other programs, school-based programs, religious cluster, and low involvement cluster. Zarrett and colleagues (2009) showed early adolescents (approximately 11 years of age) in six profile groups that included:  sports only, high

involvement in all programs, sports plus youth development programs, sports plus performing arts, sport plus religious programs, and no sports with low involvement in other programs. Bartko and Eccles (2003) included adolescents' participation in both structured programs and free-time activities that resulted in six profile groups: sports group, school-based programs group, uninvolved group, volunteer-based programs group, high involved group, and work/employment group.

**Profile Groups in Relation to the Five Cs of PYD After Controlling for Demographic Characteristics**

Regression analyses were used to assess the profile groups in relation to the Five Cs of PYD. Hierarchical multiple regression allows one to take certain variables into account. For the current study, individual- (gender, language), family- (family composition), and neighbourhood-level characteristics (SES) were controlled for in order to assess the value of the relationship between the profile groups and the outcome variables. The findings showed that after taking the demographic characteristics into account, children in the high involvement profile group consistently showed significantly higher reports of positive functioning compared to children in the low involvement profile group. Lerner (2004) states that youth are considered to be thriving in life when they demonstrate use of the Five Cs. In general, the Five Cs of PYD in the current study were found to be highest for children in the high involvement profile group, suggesting that these children showed the highest levels of "thriving" than children in the low involvement profile group. However, the significant differences were less consistent between children in the high involvement profile group and children in the free-time involvement profile group. No significant difference was found between the high involvement profile group and the free-time involvement profile group in relation to general self-concept and empathy.

First, the lack of significance between the free-time involvement profile group and the high involvement profile group in relation to general self-concept could be because of the overlap of activities that included social (e.g., instant messaging), physical (e.g., sports/exercise for fun), and educational (e.g., practice musical instrument, arts & crafts) activities that may assist with promoting general self-concept, or may engage children who already encompass high levels of general self-concept. For instance, Ruble, Martin, and Berenbaum (2006) acknowledged that children during middle childhood and adolescents may try to portray their self-image according to what is deemed "cool," or to what may lead to popularity and high status among peers. In western cultures, pre-adolescent boys typically attain status through toughness, athletic ability, and social skills, whereas girls do so through social skills, physical appearance, and parents' level of SES.

Second, the lack of significance between the free-time involvement profile group and the high involvement profile group in relation to empathy could be because certain free-time activities may include interactions with peers and adults that provide opportunities for children to feel empathic toward others. Alternatively, these children may already encompass high levels of empathy. Additionally, the programs and activities in the current study did not reflect other details that may have been vital for understanding how they relate to positive functioning. That is, it was unknown from the current findings if children participated in the programs and/or activities alone, with siblings, or with peers, which may have led to experiences for increasing levels of empathy. Further, it was unknown if the structured programs in the current study specifically focused on positive development. For instance, researchers who studied empathy generally found structured programs that specifically focused on positive development were

associated with higher empathy in adolescents (Billig, 2000; Dworkin et al., 2003; Gilman, 2001; Marsh, 1992).

The non-significant findings from the current study did not reflect the same findings of previous studies; however, the findings from the current study shine a light on the type of free-time activities that are more likely to be associated with higher levels of general self-concept and empathy compared to only watching television, playing video/computer games, and reading for fun (i.e., low involvement profile group). Although the current study used a person-centered approach to assess the pattern of participation in various programs and activities, future studies should include more descriptive information on the types of programs and activities in which children participate, such as whether the program/activity includes interactions with peers, interactions with adult leaders, and opportunities for skill-building tasks (see Bartko & Eccles, 2003).

**Strength of effect of profile groups on the Five Cs of PYD.** In the current study, the variance explained by the profile groups (i.e., using the adjusted *R*-squared), and before parsing out the demographic characteristics, showed medium effect sizes that were significant in relation to the indicators of positive functioning. After parsing out the demographic characteristics, the overall variance explained by the profile groups ranged from medium to large effect sizes that were significant for all of the indicators of positive functioning. That is, the effect sizes slightly increased after including the demographic characteristics. The amount of variance explained was consistent with previous literature that typically report small to medium effect sizes when examining patterns of participation in relation to positive youth development outcomes, and after controlling for variables of interest (e.g., Linver et al., 2009; Zarrett et al, 2009). A study by Larson (2000) showed that when examining the potential developmental benefits of OST

programs, effect sizes were small and relations relatively weak after controlling for demographic characteristics, prior level of functioning, and children's achievement-related motivation. Larson makes the claim that previous studies have overestimated the developmental benefits of OST programs when not controlling for certain characteristics that may be related to children's participation in OST programs or activities. The current study addressed this concern by controlling for multiple characteristics. However, the current study found medium to large effect sizes. The larger effect sizes in the current study may be because of the type of characteristics controlled for (i.e., gender, language, family composition, SES), the configuration of the profile groups, or the type of outcome variables represented as the Five Cs of PYD that may have increased the amount of variance explained by the profile groups.

**High involvement profile groups compared to low involvement and free-time involvement profile groups.** The majority of beneficial outcomes from previous studies appear to be related to youths' participation in a range of OST structured programs and free-time activities (e.g., Bartko & Eccles, 2003; Fredricks & Eccles, 2006a; Mahoney et al., 2005; Morris & Kalil, 2006). The current findings were consistent with prior studies where researchers examined patterns of participation in relation to positive youth development outcomes while controlling for individual- and neighbourhood-level characteristics (e.g., Fredricks & Eccles, 2006a; Linver et al., 2009). For example, Bartko and Eccles (2003) found that adolescents who reported higher levels of involvement in structured programs and free-time activities had better psychosocial and behavioural adjustment, academic performance, and mental health than adolescents who reported lower levels of involvement in all types of programs and activities.

In regards to each of the Five Cs of PYD, the benefits of structured programs have been linked to higher reports of academic-related success (e.g., Mahoney, Lord et al., 2005),

psychological functioning (e.g., Eccles & Barber, 1999) and social competence (e.g., Fredricks & Eccles, 2010; Posner & Vandell, 1994; Shernoff, 2010). The findings from the current study reflect findings from previous studies by demonstrating that children in the high involvement profile group showed higher reports of academic self-efficacy, connections to peers, and prosocial behaviour, compared to children in the low involvement profile group and children in the free-time involvement profile group. Moreover, a unique difference in the current study was the inclusion of free-time activities. The current findings indicate that children who balanced participation in both structured programs and free-time activities fared better than children who participated in only free-time activities. The current findings reflect some of the findings from Bartko and Eccles (2003) who found that adolescents who participated in a combination of structured programs and free-time activities yielded higher levels of positive developmental indicators than adolescents who were less involved in any of the programs or activities.

Participation in various programs and activities highlights the importance of addressing the diverse contexts during OST in relation to positive functioning (Bohnert et al., 2010). Posner and Vandell (1999) similarly suggest that multiple types of OST arrangements should be considered during a typical week, or even during the same afternoon. Call and Mortimer (2001) state that greater benefits are yielded from exposure to multiple contexts that potentially create more opportunities to acquire skills and cultivate relationships. Involvement in multiple programs and activities provides opportunities to take on meaningful roles and responsibilities that encourage personal accomplishments, and may promote youths' sense of efficacy (Wagner, 1999), as well as the ability to cope with stress (Linville, 1985 as cited in Bohnert et al., 2010). The patterns of participation in both structured programs and free-time activities reflect the complex environment during OST of children in middle childhood.

**Strength of relationship between profile groups.** In the current study, effect sizes (Cohen's *d*) were calculated to assess the strength of the difference between means. The first difference assessed was for the difference between the low involvement profile group and the high involvement profile group. The difference between the two profile groups displayed small to medium effect sizes in relation to the Five Cs of PYD. The strength of the difference could be due to the number of programs/activities in the high involvement profile group compared to only three activities in the low involvement profile group, as well as the minimal overlap in the type of programs/activities in each profile group.

The second difference assessed was for the relationship between the free-time involvement profile group and the high involvement profile group. The difference between the two profile groups displayed small effect sizes in relation to each indicator of positive functioning (except for general self-concept and empathy which were not significant in the regression model). These findings illustrate a relatively lesser strength of mean differences compared to the strength of differences found between the low involvement profile group and the high involvement profile group in relation to the Five Cs of PYD. The lesser strength of differences between the free-time involvement profile group and the high involvement profile group could be due to the substantial overlap in the type of activities in each profile group. That is, both profile groups had children who participated in all eight of the free-time activities, and the only difference was the children who participated in all four structured programs in the high involvement profile group.

A point worth noting is the effect size for the non-significant finding between the free-time involvement profile group and the high involvement profile group in relation to general self-concept. The effect size for general self-concept was $d = .09$, which was not significant.

However, the effect size between the free-time involvement profile group and the high involvement profile group in relation to prosocial behaviour was $d = .07$, which was significant at $p < .05$. Although prosocial behaviour was significant, the *CI* ranged from -.152 to -.001. The high end of the range is only at one-thousandths of a decimal point from a value of zero, which would yield a non-significant result if it reached zero. The discrepancy is likely due to the large sample size ($N = 2{,}193$). As mentioned earlier, significant findings should be interpreted with caution as a Type I error is likely to occur with a large sample size, particularly when interpreting the significant difference between the free-time involvement profile group and the high involvement profile group in relation to prosocial behaviour and general self-concept.

Taken together, the current findings lend themselves to understanding the type of programs and activities that may be important factors for supporting positive functioning during middle childhood. However, it is not possible to clearly determine whether the important factors are the type of programs and activities, or the duration of time spent in the programs and activities. Zarrett and colleagues (2009) explain that if children and adolescents participate in multiple activities, then they are likely to also spend more time in activities overall. It is difficult to determine if outcomes related to participation in free-time activities were due to the amount of time spent in activities or because of the type of activities. Differences found between patterns of activities may be accounted for by time spent in the activities just as much as the type. Although the survey used in the current study included items on the amount of days children participated in the program/activity, they were not significant as controls, and thus were removed from the model. This may be due to the limited variance in each item in that the majority of children indicated participation for 1-2 days out of a total of 5 days.

**Overscheduling of OST programs and activities.** The debate on overscheduling children and adolescents during OST is prevalent. However, one of the questions that remain unanswered is how participation in free-time activities, in addition to structured programs, impacts the overscheduling hypothesis. Researchers have previously addressed the concern of overscheduling children and adolescents in structured programs during OST (see Gilbert, 1999; Luthar et al., 2006; Mahoney et al., 2006). Additionally, some researchers have found support of a threshold effect. A threshold effect refers to the number of structured programs that is associated with less beneficial outcomes (see Bohnert et al., 2010). For example, Fredricks and Eccles (2006a) found a curvilinear relationship where adolescents who participated in low (less than three) or high (more than nine) amounts of structured programs were associated with higher levels of risk behaviour. Whereas, adolescents who participated in four to eight structured programs fared better relative to their counterparts. Rose-Krasnor, Busseri, Willoughby, and Chalmers (2006) found a similar relationship with early to late adolescents who showed the most improvement in academic orientation and decreased levels of risk behaviour when breadth of participation increased to four or five activities. However, the responses remained constant after five activities. Moreover, Zarrett and Lerner (2008) found an increase of positive youth development scores for adolescents who participated in up to four organized activities (i.e., structured programs). However, five or more organized activities showed slightly decreased positive youth development scores. Taken together, these studies suggest that participation in high amounts of structured programs is less favourable for beneficial outcomes.

Conversely, these studies did not fully capture the wide spectrum of OST settings because free-time activities were not included in addition to structured programs. Although the current study acknowledged the combination of structured programs and free-time activities,

only a total of four structured programs were assessed. The current study could not draw any direct conclusions to support or disclaim the overscheduling hypothesis. In order to directly examine the overscheduling hypothesis, or the threshold effect, future studies are needed to assess children's participation in multiple OST settings that include free-time activities along with participation in at least five structured programs

**Interaction between Profile Groups by Gender and by SES**

Overall, findings from the current study yielded no significant interaction between gender and profile groups, and between SES and profile groups.

**Gender interaction.** The interaction between gender and profile groups in relation to the Five Cs of PYD was not significant indicating that boys and girls did not differ in their level of positive functioning. Previous studies showed similar findings with no significant difference between gender and structured programs in relation to educational status (Mahoney et al., 2003); between gender and clusters of structured programs in relation to behaviour and academic performance (Mahoney, 2000); between gender and structured programs in relation to motivation and academic performance (Mahoney, Lord et al., 2005); and between gender and structured programs in relation to self-esteem (Gadbois & Bowker, 2007).

Middle childhood is a critical transitional period for examining gender differences in OST program and activity participation in relation to positive functioning, as this developmental stage is characterized by identity formation, changes in emotional, mental, and physical development, as well as an awareness of peer belonging and development of friendship intimacy (Eccles, 1999; Lerner et al., 2005; Roth & Brooks-Gunn, 2003a; Silliman, 2007). However, findings from the current study did not reveal any significant gender differences for participation in OST programs and activities in relation to the Five Cs of PYD. Most existing studies that

examined gender differences yielded little to no significant results (e.g., Gadbois & Bowker, 2007; Mahoney et al., 2003; Mahoney, Lord et al., 2005). Researchers from one study suggested a difference in positive functioning, particularly self-esteem, to be based on the type of program rather than on gender (Gadbois & Bowker, 2007). The authors found that more years of competitive athletics for 11th grade boys were related to higher levels of general self-esteem, whereas more years of nonathletic participation for 11th grade girls were related to higher levels of general self-esteem. Although interactions from the current study were not significant, the findings present a starting point for examining differences between gender and a combination of structured programs/free-time activities in relation to the Five Cs of PYD.

**SES interaction.** No significant difference was found for the interaction between SES and profile groups in relation to the Five Cs of PYD. Although researchers have found an association between neighbourhood characteristics, such as SES, and participation in programs and activities in relation to children's well-being (e.g., Brooks-Gunn et al., 1997; Guest & Schneider, 2003; Kegler et al., 2005; Marsh & Kleitman, 2002), a reason for the lack of significant findings could be due to the way varying levels of SES impact a neighbourhood. Ellen and Turner (1997) address the possibility of a threshold for some neighbourhood characteristics where a certain characteristic, such as a small percentage of poverty, in a neighbourhood may have a lower impact on individual outcomes. A neighbourhood with a large percentage of poverty, however, may exceed the threshold and show a higher impact on the behaviour of its residents. Thus, there may be a critical threshold for some neighbourhood characteristics in order to suggest an impact (Ellen & Turner, 1997; Quarcia & Galster, 1997). Further, neighbourhoods that appear similar based on SES indicators may have dramatic differences in regard to their social capital or available resources, which may have a unique

impact on individual outcomes (see Ellen & Turner). These points should be acknowledged when including the effects of neighbourhoods, such as SES at the postal code level, on children's positive functioning in relation to their participation in OST programs and activities.

Researchers may want to consider examining the interaction between first language learned and the profile groups and between family composition and the profile groups. Although previous studies on OST do not typically include either demographic variable as an interaction term, researchers may want to explore if there are any significant differences between first language learned and the profile groups and between family composition and the profile groups in relation to the Five Cs of PYD.

**Strengths of the Research**

**Examining free-time activities in addition to structured programs during middle childhood.** A number of studies have stated the importance of investigating children's and adolescents' involvement in activities outside of structured programs (e.g., Call & Mortimer, 2001; Li et al., 2008; Mahoney et al., 2006). However, prior studies predominantly focused on adolescents and their involvement in free-time activities with peers and by themselves (e.g., eating meals, doing homework, watching television, and hanging out with friends; Mahoney et al.). The current study focused on a younger population of children, specifically middle childhood, who are likely to have opportunities to participate in structured programs and have discretionary time for free-time activities, but the opportunities and accessibility may be limited compared to older adolescents because children (particularly in fourth grade) would need to rely on adults for transportation, and typically need supervision for the majority of the day. This age difference alters the contexts that children during middle childhood occupy during out-of-school hours. For example, team sports are available during middle childhood in elementary schools and

community centres, but not to the extent available to adolescents during high school where the level of competitiveness is higher and more resources are accessible (Marsh & Kleitman, 2003). By examining the patterns of participation for children during middle childhood, findings from the current study provided a unique insight into children's involvement in a combination of structured programs and free-time activities, and how these programs/activities were related to children's level of positive functioning.

**Patterns of participation in structured programs and free-time activities.** A strength of the current study was the use of a more fine-grained view of participation in multiple OST settings. Programs and activities were grouped according to children's participation in multiple OST programs and activities, rather than single settings assessed independently. There has been a growing need in the literature on OST programs and activities for research on the reality of children's involvement in multiple programs and activities during the same week, or even on the same day (see Fredricks & Eccles, 2006b; Weiss et al., 2005). Li and colleagues (2008) explained the need to assess the impact of free-time activities in addition to structured programs in order to broaden the understanding of OST participation. The different types of free-time activities may influence youths' level of engagement in school, and life in general. For example, research on watching television has been negatively linked to school engagement; whereas youths who spent less time watching television were more likely to be engaged with school, and less likely to be bored (Dotterer, McHale, & Crouter, 2007 as cited in Li et al., 2008). Li and colleagues (2008) state the need to examine youths' participation in structured programs and free-time activities within the context of their school, home, and neighbourhood in order to understand how they make use of all of their time. The current study acknowledged this need and

contributes to the existing literature by examining the various structured programs and free-time activities in which children may participate during the same week.

More specifically, the current study took a person-centered approach to understand the patterns of children's OST participation in structured programs and free-time activities in relation to the Five Cs of PYD. A variable-centered approach, alternatively, is useful for examining associations between the types of programs/activities (see Bartko & Eccles, 2003; Laursen & Hoff, 2006); whereas, a person-centered approach is more appropriate for investigating differences among participants who participate in the same programs/activities (Laursen & Hoff, 2006). By taking a person-centered approach in the current study, this approach facilitated a better understanding of the individual differences in children's participation in a combination of structured programs and free-time activities as it related to the Five Cs of PYD.

**Limitations and Future Directions**

Limitations of the study provide clear directions for future research aimed at shedding light on patterns of participation and their relation to the Five Cs of PYD during middle childhood.

**Use of self-report measure.** Although self-report data are commonly used in research with children and adolescents, they are not without inherent limitations. Self-report measures are generally reliable and valid, and relatively straight-forward to administer, and are considered to be particularly suitable for population-based studies (Bates, 2006). However, self-reports may result in under-reporting or over-reporting depending on the nature of the measure. For example, self-perceptions, consistency seeking, self-enhancements, and social desirability may lead participants to respond based on how they think they *should* respond or how they *want* others to

perceive them (Montag et al., 2007; Paulhus & Vazire, 2007). In the current study, potentially sensitive questions were asked, particularly questions regarding children's perceived overall health, connectedness to related and unrelated adults, and level of peer belonging and friendship intimacy that may have led to under- or over-reporting of their true thoughts and feelings.

Additionally, common method variance is an inherent concern when using only self-report measures to retrieve information from participants (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003; Spector, 2006). That is, the variance found in the results may be attributed to the measurement method rather than the constructs the measure represents (Podsakoff et al.). Correlations between variables may be inflated due to responses from the same participant in one measure, resulting in misleading conclusions. In the current study, participants completed a self-report measure that included both the predictor variables (i.e., OST programs and activities) and the outcome variables (i.e., Five Cs of PYD) that may have led to common shared variance. Accuracy of self-report measures is a challenge without other observer measures to compare to, such as teacher or parent reports. Future researchers should include multiple informants (e.g., teacher reports and parent reports) to compliment data gathered from self-reports.

Additionally, using a self-report measure to assess children's participation in OST settings may bias the validity of the data. In the survey used in the current study, children responded with a yes or a no to questions regarding participation in structured programs and free-time activities. When responding to the OST questions, children were asked to think back to "last week after school (3:00 to 6:00 p.m.)." Although a similar format was used, and showed strong validity, with fifth grade children in a study by Crocker and colleagues (2000), it is important to acknowledge that children's recall may impact the accuracy of their responses on the OST questions. Alternatively, future studies could consider a similar approach as that of

Posner and Vandell (1994) and McHale and colleagues (2001) who represented strong recall by conducting phone interviews made the evening of the day children participated in activities. Posner and Vandell (1994) also made a second call to 12% of the participants to cross-reference their responses from the first call. Although this approach is not as feasible for population-based studies, further validity and reliability tests, or other ways to collect data with more accurate recall, should be considered.

**Use of cross-sectional data.** Because the current study was cross-sectional, the true causal direction is unknown. A way to interpret the findings is that they are a marker, and not a cause, of positive functioning for children during middle childhood. Longitudinal research on the relations among participation in OST programs and activities to the Five Cs of PYD can facilitate a more comprehensive understanding of the role of OST program and activity participation on positive functioning. Furthermore, the time of year when data are collected impacts the type of information received, particularly for data on OST programs and activities (McHale et al., 2001). This is referred to as temporal rhythms. McHale and colleagues found that during the winter months, watching television was more prevalent, but an increase in sports and outdoor play was found during the warmer months. McHale and colleagues assessed what children did during their free time and found that the most common free-time activity was watching television during the winter months when there were minimal outdoor activities available. Spring time, however, showed an increase of involvement in sports and outdoor play.

Data for the current study were collected during the winter months (January) and thus the responses to involvement in structured programs and free-time activities may have been influenced by the time of year. If data were collected during the warmer months, it is possible that responses could have shifted to participation in programs and activities accessible to outdoor

environments. In addition to seasonal influences, the structured programs identified in the survey could be offered at different times of the year. For example, sport teams tend to run for a few months at a time either during the first half of the school year, or the second half of the school year. The time when the data were collected could have been when certain programs were not available, thus children may have responded with a "no" to participation in team sports, for example, but their response was simply due to the time of year. A longitudinal study could assist with addressing these time issues by collecting data at different time-points throughout the school year to have a more thorough understanding of the types of programs and activities in which children may participate.

**Use of a secondary dataset.** A disadvantage to using a secondary dataset is that the variables available may not be optimal for other studies. Although the survey included items that were relevant to the current study and addressed multiple contexts during middle childhood, the survey could be revised to provide additional information pertinent to children's OST participation and positive functioning outcomes for the present study. For example, the survey could include additional outcome variables specifically identified as PYD constructs, and structured programs classified as youth development programs or programs that subscribe to a PYD mission.

In regards to items on OST programs and activities, the current study asked if children participated in a structured program or free-time activity during the hours of 3:00 to 6:00 p.m., and how often in a week. There were no items on the details of the programs and activities, such as whether the child chose to participate or parents told them to, how many weeks in the program/activity, how many hours per session, where the program/activity was located (e.g., school or community centre), and the type of experiences and relationships they may have had in

the programs and activities. Mahoney, Vandell, Simpkins, and Zarrett (2009) state how dimensions of programs and activities are influenced by the quality of the program/activity, relationships with adults, peer affiliations and interactions, the variety and type of activities, and the level of structure in the program; however, more research is needed to explore how these features influence participation. Also, extending items to ask of children's involvement beyond 6:00 p.m., and throughout the weekend, may capture more programs and activities in which children may participate that may provide a more holistic view of children's OST involvement. As with all research, all variables cannot be included, but future studies could consider including more comprehensive questions regarding participation in programs and activities (e.g., Fredricks & Eccles, 2006a; Zarret et al., 2009).

**Missing data.** In the current study, missing data were managed in two ways: first, by recoding data, and second, by deleting missing data. First, in regards to recoding data, yes/no OST items were cross-referenced with children's responses on the amount of days they participated in the OST items. If children responded to the amount of days, but did not respond to the yes/no item, then their yes/no item was recoded from a blank to a yes. This resulted in 6% ($n$ = 169) of cases that were matched and kept in the dataset. The assumption that children unintentionally skipped the yes/no item may be reasonable; however, it is possible that children were confused by the format of the questions (i.e., if children stated yes, then they were to answer the amount of days; but if children stated no, then they were to skip the amount of days and move to the next item). A clearer format of the questions, particularly for younger children, may reduce the ambiguity of children's intentions with their responses.

Second, when data were missing in both OST items (yes/no and amount of days), then the whole case was removed from the dataset. This resulted in 10% ($n$ = 285) of cases that were

deleted listwise. The decision to remove these cases was based on the assumption that data were missing at random (Allison, 2012). Although no discernible pattern was observed among the missing data, it is possible that children did not respond to either item for reasons not captured in the dataset. For instance, all OST items were placed at the end of the survey that may have led children to miss some items due to feelings of fatigue or loss of interest.

Researchers could consider alternative ways to format follow-up questions more clearly regarding participation in OST programs and activities and the amount of days spent in the programs and activities. Additionally, focus groups with participants may yield valuable information on how children interpret the questions and with suggestions on ways to clarify the questions.

**Use of postal code level SES.** The current study used SES to represent median equivalized disposable income at the postal code level obtained from census tract data. Using SES at the postal code level may be regarded as a limitation because children's SES background was based on an aggregated level of SES that represented an average of all household incomes within a postal code area, rather than individual-level SES for each household. However, tracts, block groups, and blocks based on census geography data are regarded as reasonably consistent with the concept of neighbourhood as a nested ecological structure where different characteristics play a role at different levels of the structure (Guo & Bhat, 2005). The current study used postal code level SES data to align with the use of a population-based measure to assess children's participation in OST programs and activities in relation to the Five Cs of PYD.

However, Ellen and Turner (1997) acknowledged drawbacks to empirical research on neighbourhood effects, such as the difficulty in identifying and measuring the neighbourhood characteristics that truly have the largest impact on outcomes for families and children, as well as

the nonlinearity of neighbourhood effects that may not be easily distinguished. These drawbacks may lead to overstating or understating the effects of a neighbourhood on individual outcomes. Further, census tracts include a wealth of information on the familial, social and material conditions of populations living in a governmentally defined geographic space (Gauvin et al., 2007). However, census tracts may not adequately reflect the personal or subjective meaning of neighbourhoods held by its residents. As Gauvin and colleagues (2007) describe, most people can identify the name of the neighbourhood in which they reside, but not the boundaries defined by the census tract. Future studies that aim to assess children's participation in OST programs and activities should take these issues into consideration when including individual-level or postal code level SES as a predictor variable or an interaction term.

**Implications of the Research for Practice**

Overall, the findings from the current study build on previous research (e.g., Bartko & Eccles, 2003; Linver et al., 2009; McHale et al., 2001; Theokas and colleagues, 2006; Zarrett & Lerner, 2008) to highlight the importance of children's participation in a combination of structured programs and free-time activities as it relates to higher levels of positive functioning compared to children's participation in only free-time activities. Understanding the patterns of participation in relation to the Five Cs of PYD may help to inform how best to discuss participation in both OST structured programs and free-time activities. For instance, school and community stakeholders who focus on understanding the importance of involvement in certain types of structured programs can also discuss the implications of participation in free-time activities. My findings add support to understanding the realistic settings of children that include a combination of structured programs and free-time activities.

With 77% of Canadian mothers in the workforce (Statistics Canada, 2011), and limited resources available for adequate childcare in Canada (Decter, 2011), children experience an increase of unsupervised and discretionary time, and an increase use of technology. The reality is that the hours spent on technology will unlikely decrease over time (an average of 7.5 hours per day for school-aged children; Kaiser Foundation Report, 2010), but how can this time be buffered with more physically active types of activities and social and educational stimuli? The findings of the current study point to the direction of including structured programs (e.g., sports, art/music lessons) in addition to free-time activities, which may help to buffer the potential detrimental impact of participation in only a few free-time activities (e.g., watching television, playing video/computer games, reading for fun). One way to approach these changes is by reaching policymakers, funders, and programmers who can target schools and communities most in need of changes to children's discretionary time.

Information on the benefits of structured programs should be disseminated to parents and caregivers in order to raise awareness that while free-time activities can help to break up the day, a balance between free-time activities and structured programs may be associated with higher levels of positive functioning for children during middle childhood compared to children who participate in only a few free-time activities.

**Concluding Remarks**

Research only recently began to address the complexities of experiences during OST (e.g., Bartko & Eccles, 2003; Fredricks & Eccles, 2010; Linver et al., 2009; Zarrett et al., 2009). The present study was designed to examine children's patterns of participation in structured programs *and* free-time activities in relation to the Five Cs of PYD during middle childhood. Findings from the current study demonstrated that, after taking into account individual-, family-,

and neighbourhood-level characteristics, children who participated in a combination of structured programs and free-time activities (i.e., high involvement profile group) reported higher levels of positive functioning compared to children who participated in a few free-time activities (i.e., low involvement profile group) or children who participated in all eight free-time activities (i.e., free-time involvement profile group; except with general self-concept and empathy). Although differences were found between the high involvement profile group and the free-time involvement profile group, the strongest differences were found between the high involvement profile group and the low involvement profile group.

Overall, current findings provide exciting prospects for continued research on the patterns of participation in OST settings for children during middle childhood. Researchers must continue to investigate the multi-layered contexts during OST and their interconnections to the development of positive functioning during middle childhood. By identifying the patterns of participation in OST settings, this study has furthered the understanding of the complexity of participation during middle childhood in a combination of structured programs and free-time activities, and their association to the Five Cs of PYD.

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# Appendices

## Appendix A: Parent Consent Form

**VANCOUVER SCHOOL BOARD / THE UNIVERSITY OF BRITISH COLUMBIA**

**"Understanding the World of Middle Childhood: The Middle Years Development Instrument Survey of Grade 4 Students"**

**Parent/Guardian Information Letter**

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**Principal Investigator:**

**Co-Investigators:**

**Project Office:**

**Project Contact:**

**Date:** November, 2009

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Dear Parent/Guardian:

Please read the following form carefully. This letter contains information about a project in your child's elementary school and in all elementary schools in the Vancouver School District (VSB). This project is administrated by the Human Early Learning Partnership (HELP) at the University of British Columbia (UBC). We are writing this letter to tell parents and guardians more about the study.

***Project Background and Purpose***

Being successful in school and in life requires more than knowing the "A,B,Cs and 1,2,3s", it also involves social and emotional well-being, good physical health, using time constructively , and being supported by families, schools, and communities. What are the ways in which we can help children experience success and feel supported during the elementary school years? What do children need to lead them on a positive path to becoming caring and capable citizens of tomorrow? What can children *tell us* about what *they* need to give them a sense of competence in their achievements and feel supported in their families, schools, and communities? The answers to these questions are not yet known for children during the elementary schools years in Canada. What we do know is that what happens during the middle childhood years – the ages between 9 and 12 years of age – is critical and has long lasting effects. This is a time period in which important changes occur across almost every sphere of life – intellectual/cognitive changes, physical changes, and social and emotional changes. Middle

childhood is also a time when children expand their contexts beyond the family to the school, neighbourhood, and larger community setting.

Canadian researchers, with the help of educators and community members, have developed a questionnaire called the *Middle Years Development Instrument* (also called the MDI) to help learn more about children's development and well-being during the middle childhood years. For this study, teachers will administer the MDI to grade 4 children attending elementary schools in the Vancouver School District. The specific purpose of our study is to understand how grade 4 children think and feel about their lives both in and outside of school. This study is one of the first of its kind taking place in Canada and is being undertaken by researchers at UBC, educators at the VSB, and individuals at United Way of the Lower Mainland (UWLM) who share an interest in developing a better understanding of child development and well-being during the middle childhood years. There is a clear need for more information about children during middle childhood – specifically, information is needed that is directly from the children themselves so that it reflects ***the perspectives of the children***. The results from this study will help your child's school, school district, and community to better understand what needs to be done in your community to make sure that all children experience success both inside and outside of school so that children can reach their fullest potential.

***What data are collected?***

The MDI asks children to answer questions about five areas of children's development and well-being: 1) social and emotional development; 2) feelings of connectedness to school, family, friends, and communities; 3) school experiences, 4) physical health and well-being; and 5) time use during the after school hours. More specifically, the survey asks children questions about their classrooms and school, as well as their perceptions of their relationships with peers, parents/guardians, and other important adults such as neighbors. Children are then asked to provide information about their perceived physical health. In the final section of the survey, children are asked to provide information about how they spend their time out of school during a typical week. In this section we not only ask children to provide information about what they do after school but also what they wish they could be doing during after school time. Because there are four questions on the MDI that ask your child about problems that he/she may be having with classmates, we have inserted a form at the end of the survey that asks if your child would like to be contacted by his/her teacher or school counsellor for help. Your child will be asked to answer with a "yes" or "no" (if he/she answers with a "yes" he/she is asked to also print his/her name). This form will be removed from the survey by your child and handed separately to the teacher. If your child marks "yes" for help, the teacher will follow the procedures of the school on how to deal with problems with other students.

The school district will also let the researchers know your child's Personal Education Number (PEN) (without your child's name), which will be connected with MDI data and used to assist with approved research data linkages. Future data linkages will only include other data sets for research purposes, such as linking data with the Early Development Instrument, which collects information on kindergarten children.

Note that students' PENs will not be connected to students' names when the surveys are brought to UBC for data entry and analysis. The steps for obtaining PENs from the school district and separating PENs from students' names will occur in the following manner. First, the school district contact will prepare a class list (including PENs) for participating grade 4 students so teachers can verify which students are participating in the MDI research study. Although children's names are not included anywhere on the MDI, they are collected for class lists to help the teachers and, in turn, raise the level of data reporting accuracy. Second, the school district

contact will provide class lists and PENs to teachers. The school district contact will instruct teachers to include their class list(s) and PENs with their completed surveys so the school district contact can shred class lists once surveys are collected. Third, class lists are used only within the district and are considered to be temporary data records which, by privacy law, are destroyed immediately after they have been used by teachers. HELP requests that the school district contact (i) collects class lists with completed surveys, and then (ii) shreds class lists once they are received. Upon receiving the completed MDI surveys from classroom teachers, the MDI researcher will remove PENs from the MDI and put the PENs in a file separate from the MDI surveys. Note that only the school district has the list that connects students' names with their PENs.

***How is the MDI done?***

The survey will be completed by your child during school hours. The entire survey takes children approximately one class period (50 to 60 minutes) to complete. All questions will be read out loud by your child's classroom teacher. Due to the language-based nature of the surveys, teachers will determine if children who are English learners or have difficulty understanding the questions will be able to participate in the study. Students will be able to ask for teacher assistance at their own discretion. Questionnaires will then be sent to UBC for data entry, secure storage, and analysis. Students' names are not collected on the MDI. School district contacts will work directly with grade 4 teachers and the HELP project administrator to ensure safe handling of all student data.

It is important to note that we are not "testing" the children. <u>We simply want to know how children are feeling and doing as well as how children understand themselves and others</u>. Participation in the project is voluntary. As these surveys will be administered during class time, your child has the right to refuse or withdraw from the project at any point before, during, or after completion of the survey. Your child can also refuse to answer any question that he/she does not want to answer. If a child chooses not to participate, his/her classroom teacher will provide an alternate activity that is related to the regular school curriculum.

***What are the benefits of the MDI?***

This is the first survey of its kind in Canada that obtains comprehensive information on the lives of grade 4 children inside and outside of school, from the children themselves. What we do know is that listening to what children tell us and making their voices heard provides information that is critical for assisting school professionals, community leaders, and researchers who wish to learn more about children during middle childhood find ways to promote positive development for all children.

***How are the data reported?***

The MDI is a population health measure. Results are reported only at the level of the group (neighbourhood, school district or school). HELP will provide the Vancouver School District with reports of the MDI results for each individual school. To secure against the identification of any students, schools that have less than five grade 4 students will not receive results back from HELP. HELP researchers will also create and make public maps and provide written community summaries of the results. This information will be posted on HELP's website (www.earlylearning.ubc.ca). As always, student identification information is not connected in any way to the research findings.

***How will the Vancouver School District and your community benefit?***

Receiving reports from HELP will benefit the Vancouver School District and Vancouver communities in a number of ways. For example, the research helps show where there are large neighbourhood differences in the number of children who are healthy and feel supported by schools and communities, where groups of children are doing well across communities, and how social and economic factors may affect children's development. The information from this project can help schools, program planners, and community members become more aware of ways to create environments to help children in their community thrive.

***How will the MDI data be used and stored?***
Each student's MDI information will be stored in a secure database. Personal identification data, such as PEN numbers, date of birth, and postal code are needed for data linkage purposes only. For confidentiality reasons this identification data is stored separately from the MDI data in a secure research environment. All MDI questionnaires are stored at HELP. Your child's school does not keep a copy of the questionnaire and no information is added to your child's school record. Because the results of the study are reported at the group-level only, your child's own specific questionnaire information ***will never*** be made public in any way.

HELP will share MDI data with Population Data BC. The purpose of Population Data BC is to facilitate access to data for *bona fide*, public-interest research purposes, while at the same time ensuring protection of privacy and confidentiality of individuals. Access to data for research purposes under the *Freedom of Information and Protection of Privacy Act* (FIPPA) will be approved by HELP, the Data Steward, who is responsible for MDI data. Each research application will be assessed on its own merits and must be used consistently for the purposes for which the data was obtained or compiled pursuant to FIPPA section 34(1). Access to MDI data will be provided, upon request, to researchers for *bona fide* public-interest research purposes, while at the same time ensuring protection of privacy and confidentiality of individuals. Bona fide researchers who apply to use the MDI data for research or statistical purposes will be provided research data that is anonymized (to make your child's personal information anonymous) to maintain the confidentiality promised in the consent. No PENs will be associated with what is provided. This de-identified data is referred to as a research abstract.

***Why are data being linked?***
The data may be combined with other data sources in order to learn more about the factors that impact children's well-being and sense of competence. Other data sources may include education and health information. The linked data can *only* be used for research or statistical purposes.

***What is involved in project participation?***
The Vancouver School District will arrange for your child's grade 4 teacher to administer the MDI questionnaire to his/her grade 4 students. If you have any questions about the questionnaire, or to view the questionnaire, you may contact xxxx. The teachers have been informed on how to administer the questionnaire.

Your taking part is voluntary and will not affect any services that your family receives from the Vancouver School District. You have the right to withdraw from the study at any time and you have the right to ask that your child not answer any of the questions. If you wish to remove your child's name from the participant list, please contact your child's teacher within **4 weeks** upon receiving the letter. Also, we always respect a child's wish whether or not he/she wants to participate. Your child has the right to refuse or withdraw from the study at any time, even after he/she completes the questionnaire. Refusing to participate or withdrawal will not affect your child's education in any way.

If at any time you have any concerns about your treatment or rights as a person who takes part in this project, you may contact the xxxx. If you have any questions or concerns regarding this project, you may contact the principal investigator at the numbers provided above or by email at: xxxx.

***Where can I get more information on the study?***
If you have any questions or concerns about this research project, please do not hesitate to contact either me xxxx.

Sincerely,

## Appendix B: Parent Information Letter

### VANCOUVER SCHOOL BOARD / THE UNIVERSITY OF BRITISH COLUMBIA

**"Understanding the World of Middle Childhood: The Middle Years Development Instrument Survey of Grade 4 Students"**

Dear Parent/Guardian:

We are writing to inform you that your child is invited to participate in a new and important research project. This research study is concerned with understanding the psychological and social worlds of children inside and outside of school during middle childhood (ages 9 to 12).

***Purpose of the project***
The purpose of our study is to understand how children during the middle childhood years think and feel about their lives both inside and outside of school. This study is one of the first of its kind taking place in Canada and is being undertaken by Canadian researchers and educators.

***What data are collected?***
The Middle Years Development Instrument (MDI) asks children to answer questions about five areas of children's development and well-being: 1) social and emotional development; 2) feelings of connectedness to school, family, friends, and communities; 3) school experiences, 4) physical health and well-being; and 5) time use during the after school hours.

***How is the MDI done?***
The survey will be completed by your child during school hours and the entire survey takes children approximately one class period (50 minutes) to complete. All questions will be read out loud by your child's classroom teacher. The MDI information will be kept in a secure facility at UBC. Students' names are never collected on the MDI.

***What are the benefits of the MDI?***
This is the first survey of its kind in Canada that obtains comprehensive information on the lives of grade 4 children inside and outside of school, from the children themselves. Listening to what children tell us and making their voices heard provides information that is critical for assisting school and community leaders, and researchers to find ways to promote positive development for all children.

***How are the data reported?***
Results are reported only at the level of the group (neighbourhood, school district or school). Student identification information is not connected in any way to the research findings.

***How will the Vancouver School District and your community benefit?***

*Schools across Vancouver are working on a research project to understand how children think and feel.*

*Your child fills in the questionnaire while his/her teacher reads the questions out loud.*

*Your child is never named, and your child's information is protected.*

The information from this project can help schools, program planners, and community members become more aware of ways to create environments to help children in their community thrive.

***How will the MDI data be used and stored?***
Each student's MDI information will be stored in a secure database. All MDI questionnaires are stored at the Human Early Learning Partnership (HELP). All information is collected, used and/or disclosed only for research purposes, in strict agreement with the *British Columbia Freedom of Information and Protection of Privacy Act (FIPPA).*

***Why are data being linked?***
The data may be combined with other data sources in order to learn more about the factors that impact children's well-being and sense of competence. Data linkage is only for research or statistical purposes.

***What is involved in project participation?***
The Vancouver School District will arrange for your child's grade 4 teacher to administer the MDI questionnaire to his/her grade 4 students. Your taking part is voluntary and will not affect any services that your family receives from the Vancouver School District. You have the right to withdraw from the study at any time and you have the right to ask that your child not answer any of the questions. If you wish to remove your child's name from the participant list, please contact your child's teacher within 4 weeks upon receiving the letter.

Your child has the right to refuse or withdraw from the study at any time, even after he/she completes the questionnaire. Refusing to participate or withdrawal will not affect your child's education in any way.

If you have any questions about the questionnaire, or to view the MDI questions, you may contact xxxx.

If you have any questions or concerns regarding this project, you may contact the principal investigator at the numbers provided on the next page or by email at: xxxx.

If you have any concerns about your child's treatment as a research participant, you may contact the xxxx.

*I can contact xxxx with any questions about the project.*

Sincerely,

## Appendix C: Student Assent Form

Student Verbal Assent Script

January, 2009

"Dear Participating Student,

**Purpose of this Study**

Today, researchers from the University of British Columbia (UBC) want to ask you to be a part of their research project on grade 4 students. The researchers need your help in understanding how grade 4 students think and feel about themselves and other things, like school and friends. The best way to find this out about kids your age is by asking kids just like you! All of the grade 4 students who go to elementary schools in the Vancouver School District are being invited to participate in this important research project. This means that there will be thousands of grade 4 students who will take part!

If you say yes to helping, then there is a survey for you to complete. The title of the survey is, **"Understanding Our Lives: The Middle Years Development Instrument: Survey of Grade 4 Students."** This survey will help the researchers learn more about how children your age feel and think. This information can then be used to help teachers, parents, community members, and others figure out ways to help grade 4 students experience success and feel good about themselves.

**Survey Content**

On the survey, you will be asked to answer questions that ask you about your feelings about yourself; your physical health; your relationships with other children, parents and other adults; and your school. The last part of the survey contains questions that ask you about what you do after school AND what you wish you could be doing after school. Also, your school will give us your Personal Education Number (PEN), which gives us educational information about you.

It is important that you know that THIS IS NOT A TEST and there are NO RIGHT OR WRONG ANSWERS. Your answers on this survey will not affect your marks. The researchers are only interested in your opinions and thoughts about different things in your life.

**It is Voluntary**

The survey is voluntary. That means that it is YOUR CHOICE whether or not you want to be a part of this research study. If you change your mind at any time during the study, you may stop filling in the survey and there will be no consequences (you will not get in trouble, there will be no punishment).

If you choose not to participate, it will not affect your marks. I [the teacher] will give you something else to work on related to our regular classroom curriculum.

**It is Confidential**

The information that you give on the survey is confidential – that means it will be kept PRIVATE! No one at our school or in our community—not even your parents/guardians, me, other teachers, or school administrators (like the principal)—will ever be able to see how you answered the questions. The researchers will keep your answers from the survey in a privately locked location at the University of British Columbia. No names will be used when the information is studied. This means that the INFORMATION YOU GIVE THE RESEARCHERS WILL BE KEPT PRIVATE.

**Administration of the Survey**

There is one survey you have to complete. During your class, I [the teacher] will read out loud each question from the survey. The survey will be placed in a sealed envelope so that all answers are confidential (private). This means that NO ONE will read your answers except for the researchers at UBC who work on this project.

**Potential Risks**

The researchers have told us that doing the survey will not be harmful to you – that is, there are no known risks of physical, emotional or mental harm to you. You may feel uncomfortable answering a question or two. It is okay to answer the best you can. Also, there will be four questions about problems you may be having with classmates. Remember, there are no right or wrong answers – the researchers are only interested in hearing about how YOU feel and how YOU think. At the end of the survey, make sure you check "yes" or "no" if you want help from your teacher or school counsellor because of problems you may be having with classmates.

**Potential Benefits**

It is important that you know that THIS IS THE FIRST SURVEY IN CANADA on grade 4 students that asks the children to tell us about how they feel and how they think about their lives inside and outside of schools. YOU ARE THE TEACHERS! The researchers hope that the results from these surveys – that come from listening to what the kids have to tell them -- will provide information that is important for helping school and community leaders, and parents to find ways to help all children be the best they can be, and to be successful in school and in life.

**Verbal Assent**

If you do not want to participate in the project, raise your hand to tell me that you do not want to fill out the survey and you will be given something else to do related to our classroom curriculum.

**Thank you for your help!**"

## Appendix D: Vancouver School Board Approval Letter

Vancouver School Board
School District No. 39 (Vancouver)

February 14, 2008

Dear Kim,

Thank you for your letter and research proposal "Understanding the World of Middle Childhood: The Middle Years Development Instrument Survey of Grade 4 Students." On behalf of the VSB Research Committee, please accept this letter as approval for you to complete your research in Vancouver schools. You have permission to contact teachers, parents and students in Vancouver schools. We request that you make your initial contact with the principal of the school to inform them of your study. Please note that teachers and administrators are very busy with many obligations and that schools have the right of refusal to participate in any research studies.

The VSB Research Committee would be very interested in learning of your results and its implications for students. When your research is completed please send us an abstract of the results.

Thank you for focusing your work within the Vancouver School District. I wish you the best of luck as you proceed with your inquiry.

Sincerely,

## Appendix E: Teacher Administration Instructions

THE UNIVERSITY OF BRITISH COLUMBIA

**MIDDLE YEARS DEVELOPMENT INSTRUMENT (MDI)**
**Pilot of a District-Wide Implementation**

**TEACHER INSTRUCTIONS OVERVIEW**

**** TO BE READ IN ADVANCE OF QUESTIONNAIRE ADMINISTRATION****
**SEE TEACHER ADMINISTRATION MANUAL FOR DETAILED INSTRUCTIONS**

### *What is the Middle Years Development Instrument (MDI)?*

- The MDI is a child self-report questionnaire that helps you and us (the researchers) learn more about the lives of grade 4 children both inside and outside of school. It is designed to provide information about how children are thinking and feeling during the middle childhood years –between the ages of 9 and 12.

### *What is my role in this?*

- Your school and the Vancouver School Board have agreed to take part in the MDI and your assistance and expertise are needed to administer this survey to your grade 4 students. It is up to you whether or not you would like to participate in this project, and we sincerely appreciate your help in collecting this important information.

- We are here to support you along the way. If you choose to partake in this project, we ask for your attention to detail and to follow the steps carefully for successful implementation of this project. Your efforts are critical in ensuring that the information we collect about middle-school students in BC is accurate.

- You do not have to fill out the survey yourself; however, we ask that you read the survey out loud to your students. The MDI takes about 50 to 60 minutes to complete. You can choose when to administer the survey over the course of a week, over one or more sessions. We have provided you with a suggested break time at the midway point. You can choose to take more than one break and choose when to resume the survey during the week.

FOLLOWING ARE THE STEPS FOR ADMINISTERING THE SURVEY.

### STEP #1 — PREPARE FOR SURVEY

To be fully prepared to administer the survey, review the following issues:

**• Survey materials**
At least two or three days before the administration of the survey, you should receive: 1) the surveys, 2) transmittal envelopes (envelopes used to return the questionnaires), 3) Teacher Administration Manual, 4) note page, 5) student assent script for you to read, and 6) a teacher evaluation form.

• **Answer student questions**
Students may have questions about their participation in the survey. Your school or district coordinator should have made preparations on how to answer these questions or provide referrals to other people or programs. Be sure you have been informed of these arrangements.

• **Choose times to administer the survey**
It is important that children are fully alert and motivated when this survey is administered. Therefore, please AVOID administering at times when your students might be distracted and have a difficult time paying attention (e.g., around a scheduled fire drill, the end of the school week).

## STEP #2 — SET UP ROOM ENVIRONMENT

On the day of the survey:

**Materials Needed:**

1. List of parent/ guardian who declined child's participation
2. Class work or activities for students not participating

• Identify students who will participate.
• Identify and separate those students whose parents have indicated that they do not want their child to participate.
• Seat participating students so that their responses can not be observed by another student.
• Provide class work or activities for students who will not be participating. They do not have to be removed from the classroom.

## STEP #3 — SURVEY ADMINISTRATION

On the day of the survey:

**Materials Needed:**

1. Student Verbal Assent Form
2. Class List with Labels
3. MDI Surveys
4. Teacher Administration Manual

• **Read introductory script to students – "Student Verbal Assent Form"**
You will be provided with a script that assures that students know that there are no consequences for choosing to participate or not to participate. The information collected from them on the MDI is confidential and will be kept private. Reassure them that no one in the school or their parents will see how they respond to any of the questions. Only the UBC researchers will have access to their information and

that they too have no way of knowing who the students are.

• **Distribute surveys**
Place each unique identification number label on the front page of each survey. The unique identification number corresponds with students' names provided on the class list sheet. Please make sure each survey distributed is given to the correct student.

• **Monitor students**
To ensure privacy and confidentiality, and to promote honest responses, do not wander around the room while you read the items out loud and the students complete the questionnaire. However, do observe their behavior to ensure that disruptions do not occur or that students do not try to find out how other students answered. Also, please do not help the children by monitoring or prompting their responses.

• **During administration**
While administering the questionnaire, please remain neutral while reading the instructions and questions to students (e.g., refrain from making jokes, additional comments, pointing out certain students).

• **Administering the survey at more than one time point**
If the survey is administered during more than one time period, make sure students close their surveys, place them in the envelope included in the packet, and place them in a locked and secure location (e.g., desk drawer). At the next time period available, hand out the surveys according to the unique identification number on the label on the front page of each survey that corresponds with the classlist provided to ensure students receive their correct survey.

## STEP #4 — COLLECT SURVEYS

• **At the end of survey administration**
• Have students close their surveys and hand them in to you.
• Have students remove the Help for Students form at the end of the survey and collect separately.
• Go through the separate sheet to determine which students ticked "Yes" for help and follow your school's protocol.
• Publicly seal the envelope before the students.
• Thank the students for their participation.

## STEP #5 — TEACHER EVALUATION FORM

**Materials Needed:**

1. Teacher Evaluation Form

• Please take a few minutes to complete the teacher evaluation form.
• Turn in transmittal envelopes and other materials to the MDI school coordinator.

***WHAT SHOULD I DO IF . . .***

- **A student asks a question about any particular item that is confusing to them:**
  - ➔ Please do not provide your own interpretation to them.
  - ➔ Re-read the question, directing it to the individual student (e.g., "What would you say to me if I said—READ QUESTION—?").
  - ➔ Please note down any issues that arise on the "survey administration notes" sheet provided to you.

- **There is a particular word that is confusing for your students:**
  - ➔ Help them with a dictionary definition.
  - ➔ Please note any issues that arise.

- **Students must leave the room during the administration of the questionnaire:**
  - ➔ Have them mark their booklet where they stopped so they may later return to the questions they missed.

## Appendix F: MDI Survey

**[LABEL]**

# UNDERSTANDING OUR LIVES

## MIDDLE YEARS DEVELOPMENT INSTRUMENT
Survey of Grade 4 Students

We would like to learn more about the lives of elementary school children in Canada. To do that, we would like to ask you some questions about how you think and feel about things in your life and about what you like to do.

This is **NOT A TEST**! There are **NO RIGHT OR WRONG ANSWERS**. Some people think or feel one thing and other people think or feel something else. We want to know what ***you*** think and how ***you*** feel. Your answers are VERY IMPORTANT and will help improve programs for children your age.

It is your choice to fill out the survey. If you choose not to participate at any time before, during, or after you complete the survey, you will not be punished or lose marks.

The information you put in this booklet will be CONFIDENTIAL (private) and will **NOT** be shared with your teacher, principal, parents, or your school friends.

Please answer each question the best you can.

**Thank you for your help!**

UBC

United Way of the Lower Mainland

HELP Human Early Learning Partnership

VSB

## PLEASE TELL US A LITTLE BIT ABOUT YOURSELF

**1. Are you a boy or a girl?** *(Circle One)* **BOY GIRL**

**2. What is your birth date?** _____ _____ _____
**Month Day Year**

**3. Which of these adults do you live with MOST OF THE TIME? (***Check all adults you live with.)*

| | | |
|---|---|---|
| ☐ **Mother** | ☐ **Grandmother** | ☐ **Second Father** |
| ☐ **Father** | ☐ **Grandfather** | ☐ **Part time with each Parent** |
| ☐ **Stepfather** | ☐ **Second Mother** | ☐ **Foster Parent(s) or Caregiver(s)** |
| ☐ **Stepmother** | | |

☐ **Other Adults** (Write in the space below, *for example*, aunt, uncle, mom's boyfriend or girlfriend, dad's boyfriend or girlfriend**):** _____

**4. Do you have any brothers or sisters?**

☐ NO

☐ YES ➡ How many? ☐ **1** ☐ **2** ☐ **3** ☐ **4** ☐ **5** ☐ **6** ☐ **7 or more**

**5. What is the first language you learned at home?** *(You can check more than one if you need to.)*

| | | |
|---|---|---|
| ☐ **English** | ☐ **French** | ☐ **Mandarin** |
| ☐ **Cantonese** | ☐ **Hindi** | ☐ **Punjabi** |
| ☐ **Farsi** | ☐ **Japanese** | ☐ **Spanish** |
| ☐ **Filipino/Tagalog** | ☐ **Korean** | ☐ **Vietnamese** |
| ☐ **Other**_____ | | |

**6. Which language(s) do you speak at home?** *(You can check more than one if you need to.)*

| | | |
|---|---|---|
| ☐ **English** | ☐ **French** | ☐ **Mandarin** |
| ☐ **Cantonese** | ☐ **Hindi** | ☐ **Punjabi** |
| ☐ **Farsi** | ☐ **Japanese** | ☐ **Spanish** |
| ☐ **Filipino/Tagalog** | ☐ **Korean** | ☐ **Vietnamese** |
| ☐ **Other**_____ | | |

**7. How difficult is it for you to read in English?**

☐ **Very HARD** ☐ **Hard** ☐ **Easy** ☐ **Very EASY**



PLEASE CHECK THAT YOU HAVE ANSWERED ALL QUESTIONS ON THIS PAGE BEFORE TURNING TO THE NEXT PAGE ⇨

## INSTRUCTIONS

- Each question will be **read out loud**.
- If you do not understand a question, please raise your hand and **ask for help**.
- Make sure you **understand** the question and the answers **before** you answer.
- Only check **one answer** for each question.

Here are sample questions for practice. Give them a try!

These questions ask you how much you **AGREE** or **DISAGREE** with the statement.

| | Disagree A Lot | Disagree A Little | Don't Agree or Disagree | Agree A Little | Agree A Lot |
|---|---|---|---|---|---|
| I like to eat pizza. | ☐ 1 | ☐ 2 | ☐ 3 | ☐ 4 | ☐ 5 |
| I like to eat carrots. | ☐ 1 | ☐ 2 | ☐ 3 | ☐ 4 | ☐ 5 |

## LET'S START NOW!

Remember, there are **NO** right or wrong answers!

| How much is each statement like you? | Not at All Like Me | A Little Like Me | Kind of Like Me | A Lot Like Me | Always Like Me |
|---|---|---|---|---|---|
| **1.** I feel sorry for other kids who don't have the things that I have. | ☐ 1 | ☐ 2 | ☐ 3 | ☐ 4 | ☐ 5 |
| **2.** When I see someone being treated mean it bothers me. | ☐ 1 | ☐ 2 | ☐ 3 | ☐ 4 | ☐ 5 |
| **3.** I am a person who cares about the feelings of others. | ☐ 1 | ☐ 2 | ☐ 3 | ☐ 4 | ☐ 5 |
| **4.** I have more good times than bad times. | ☐ 1 | ☐ 2 | ☐ 3 | ☐ 4 | ☐ 5 |
| **5.** I believe more good things than bad things will happen to me. | ☐ 1 | ☐ 2 | ☐ 3 | ☐ 4 | ☐ 5 |
| **6.** I start most days thinking I will have a good day. | ☐ 1 | ☐ 2 | ☐ 3 | ☐ 4 | ☐ 5 |

| How often do you feel like this? | Never | Hardly Ever | Sometimes | Often | Always |
|---|---|---|---|---|---|
| **7.** In general, I like being the way I am. | ☐ 1 | ☐ 2 | ☐ 3 | ☐ 4 | ☐ 5 |
| **8.** Overall, I have a lot to be proud of. | ☐ 1 | ☐ 2 | ☐ 3 | ☐ 4 | ☐ 5 |
| **9.** A lot of things about me are good. | ☐ 1 | ☐ 2 | ☐ 3 | ☐ 4 | ☐ 5 |



PLEASE CHECK THAT YOU HAVE ANSWERED ALL QUESTIONS ON THIS PAGE BEFORE TURNING TO THE NEXT PAGE

| How much do you agree or disagree? | Disagree A Lot | Disagree A Little | Don't Agree or Disagree | Agree A Little | Agree A Lot |
|---|---|---|---|---|---|
| **10.** In most ways my life is close to the way I would want it to be. | ☐1 | ☐2 | ☐3 | ☐4 | ☐5 |
| **11.** The things in my life are excellent. | ☐1 | ☐2 | ☐3 | ☐4 | ☐5 |
| **12.** I am happy with my life. | ☐1 | ☐2 | ☐3 | ☐4 | ☐5 |
| **13.** So far I have gotten the important things I want in life. | ☐1 | ☐2 | ☐3 | ☐4 | ☐5 |
| **14.** If I could live my life over, I would have it the same way. | ☐1 | ☐2 | ☐3 | ☐4 | ☐5 |

| How much do you feel like this? | Never | Hardly Ever | Sometimes | Often | Always |
|---|---|---|---|---|---|
| **15.** I feel unhappy a lot of the time. | ☐1 | ☐2 | ☐3 | ☐4 | ☐5 |
| **16.** I feel upset about things. | ☐1 | ☐2 | ☐3 | ☐4 | ☐5 |
| **17.** I feel that I do things wrong a lot. | ☐1 | ☐2 | ☐3 | ☐4 | ☐5 |
| **18.** I worry about what other kids might be saying about me. | ☐1 | ☐2 | ☐3 | ☐4 | ☐5 |
| **19.** I worry a lot that other people might not like me. | ☐1 | ☐2 | ☐3 | ☐4 | ☐5 |
| **20.** I worry about being teased. | ☐1 | ☐2 | ☐3 | ☐4 | ☐5 |

| Since the start of this school year, how often did you do this? | Never | Once or Twice | A Few Times | Many Times |
|---|---|---|---|---|
| **21.** I cheered someone up who was feeling sad. | ☐1 | ☐2 | ☐3 | ☐4 |
| **22.** I helped someone who was being picked on. | ☐1 | ☐2 | ☐3 | ☐4 |
| **23.** I helped someone who was hurt. | ☐1 | ☐2 | ☐3 | ☐4 |

**24.** Are there any adults who are **IMPORTANT TO YOU** at your **SCHOOL**?

☐ NO ☐ YES

**If YES**, list all the adults who are **IMPORTANT TO YOU** at your **SCHOOL**. You can use just their initials, for example, H.R. for the school nurse or Miss H. for the Principal. You do not have to fill all six spaces.

1. _____ 3. _____ 5. _____
2. _____ 4. _____ 6. _____



PLEASE CHECK THAT YOU HAVE ANSWERED ALL QUESTIONS ON THIS PAGE BEFORE TURNING TO THE NEXT PAGE

Even if you did not write any names, please answer the following questions about your **SCHOOL.**

| **How true is each statement for you?**<br>**At my school, there is a teacher or another adult …** | **Not at All True** | **A Little True** | **Pretty Much True** | **Very Much True** |
|---|---|---|---|---|
| **25.** … who really cares about me. | ☐1 | ☐2 | ☐3 | ☐4 |
| **26.** … who believes that I will be a success. | ☐1 | ☐2 | ☐3 | ☐4 |
| **27.** … who listens to me when I have something to say. | ☐1 | ☐2 | ☐3 | ☐4 |

Please answer the following questions about your **NEIGHBOURHOOD/COMMUNITY.**

| **How true is each statement for you?**<br>**In my neighbourhood/community (NOT from your school or family), there is an adult …** | **Not at All True** | **A Little True** | **Pretty Much True** | **Very Much True** |
|---|---|---|---|---|
| **28.** … who really cares about me. | ☐1 | ☐2 | ☐3 | ☐4 |
| **29.** … who believes that I will be a success. | ☐1 | ☐2 | ☐3 | ☐4 |
| **30.** … who listens to me when I have something to say. | ☐1 | ☐2 | ☐3 | ☐4 |

Think of your **NEIGHBOURHOOD/COMMUNITY** where you live.

| **Which of the following activities and services are in your neighbourhood/community?** | **No** | **Yes** | **Don't Know** |
|---|---|---|---|
| **31.** Are there places in your neighbourhood/community that provide programs for kids your age, like sports (for example, swimming, soccer, hockey, art, dance, music classes, and other clubs and activities)? | ☐1 | ☐2 | ☐3 |
| **32.** Are there safe places in your neighbourhood/community where you feel comfortable to hang out with friends, like playgrounds, parks, or community centers? | ☐1 | ☐2 | ☐3 |

The next few questions are about your **PARENTS** (or guardians). PARENTS can be biological parents, adoptive parents, stepparents, same-sex parents or foster parents.

Please answer the following questions about a **PARENT** or **OTHER ADULT** who lives in your home.

| **In my home, there is a parent or another adult …** | **Not at All True** | **A Little True** | **Pretty Much True** | **Very Much True** |
|---|---|---|---|---|
| **33.** … who believes that I will be a success. | ☐1 | ☐2 | ☐3 | ☐4 |
| **34.** … who listens to me when I have something to say. | ☐1 | ☐2 | ☐3 | ☐4 |
| **35.** … who I can talk to about my problems. | ☐1 | ☐2 | ☐3 | ☐4 |

| **How often do you feel like this?** | **Never** | **Sometimes** | **Often** | **Always** |
|---|---|---|---|---|
| **36.** I care about what my parents (or guardians) think of me. | ☐1 | ☐2 | ☐3 | ☐4 |



PLEASE CHECK THAT YOU HAVE ANSWERED ALL QUESTIONS ON THIS PAGE BEFORE TURNING TO THE NEXT PAGE

Please answer the following questions about you and your **FRIEND(S)** and **CLASSMATES**.

| How true is each statement for you? | Not at All True | Hardly Ever True | Sometimes True | Most of the Time True | Always True |
|---|---|---|---|---|---|
| **37.** I feel part of a group of friends that do things together. | ☐1 | ☐2 | ☐3 | ☐4 | ☐5 |
| **38.** I feel that I usually fit in with other kids around me. | ☐1 | ☐2 | ☐3 | ☐4 | ☐5 |
| **39.** When I am with other kids my age, I feel I belong. | ☐1 | ☐2 | ☐3 | ☐4 | ☐5 |
| **40.** I have at least one really good friend I can talk to when something is bothering me. | ☐1 | ☐2 | ☐3 | ☐4 | ☐5 |
| **41.** I have a friend I can tell everything to. | ☐1 | ☐2 | ☐3 | ☐4 | ☐5 |
| **42.** There is somebody my age who really understands me. | ☐1 | ☐2 | ☐3 | ☐4 | ☐5 |

| How much is each statement like you? | Not at All Like Me | A Little Like Me | Kind of Like Me | A Lot Like Me | Always Like Me |
|---|---|---|---|---|---|
| **43.** I am certain I can learn the skills taught in school this year. | ☐1 | ☐2 | ☐3 | ☐4 | ☐5 |
| **44.** If I have enough time, I can do a good job on all my school work. | ☐1 | ☐2 | ☐3 | ☐4 | ☐5 |
| **45.** Even if the work in school is hard, I can learn it. | ☐1 | ☐2 | ☐3 | ☐4 | ☐5 |

| How much do you agree or disagree? | Disagree A Lot | Disagree A Little | Don't Agree or Disagree | Agree A Little | Agree A Lot |
|---|---|---|---|---|---|
| **46.** Teachers and students treat each other with respect in this school. | ☐1 | ☐2 | ☐3 | ☐4 | ☐5 |
| **47.** People care about each other in this school. | ☐1 | ☐2 | ☐3 | ☐4 | ☐5 |
| **48.** Students in this school help each other, even if they are not friends. | ☐1 | ☐2 | ☐3 | ☐4 | ☐5 |

| How true is each statement for you? | Not at All True of Me | Somewhat True of Me | Very True of Me |
|---|---|---|---|
| **49.** I feel like I belong in this school. | ☐1 | ☐2 | ☐3 |
| **50.** I feel like I am important to this school. | ☐1 | ☐2 | ☐3 |
| **51.** When I grow up, I have goals and plans for the future. | ☐1 | ☐2 | ☐3 |



PLEASE CHECK THAT YOU HAVE ANSWERED ALL QUESTIONS ON THIS PAGE BEFORE TURNING TO THE NEXT PAGE

| 52. How important is it to you to do the following in school: | Not Important at All | Not Very Important | Somewhat Important | Very Important |
|---|---|---|---|---|
| a. Make friends? | ☐1 | ☐2 | ☐3 | ☐4 |
| b. Get good grades? | ☐1 | ☐2 | ☐3 | ☐4 |
| c. Learn new things? | ☐1 | ☐2 | ☐3 | ☐4 |

Important definition – **BULLY** – There are a lot of different ways to bully someone, but a bully has some advantage (stronger, more popular, or something else), wants to hurt the other person (it's not an accident), and does so repeatedly and unfairly. Sometimes a group of students will bully another student.

The next four questions might make you feel uncomfortable, but it is important for us to know. Please answer the questions honestly.

| This school year, how often have you been bullied by other students in the following ways? | Not at All This School Year | About Every Month | About Every Week | Several Times a Week |
|---|---|---|---|---|
| **53.** Physical Bullying (for example, someone hit, shoved, or kicked you, spat at you, beat you up, or damaged or took your things without permission). | ☐1 | ☐2 | ☐3 | ☐4 |
| **54.** Verbal Bullying (for example, someone called you names, teased, embarrassed, threatened you, or made you do things you didn't want to do). | ☐1 | ☐2 | ☐3 | ☐4 |
| **55.** Social Bullying (for example, someone left you out, excluded you, gossiped and spread rumors about you, or made you look foolish). | ☐1 | ☐2 | ☐3 | ☐4 |
| **56.** Cyberbullying (for example, someone used the computer or text messages to exclude, threaten, embarrass you, or to hurt your feelings). | ☐1 | ☐2 | ☐3 | ☐4 |

| Which answer is more like you? | Poor | Fair | Good | Excellent |
|---|---|---|---|---|
| **57.** In general, how would you describe your health? | ☐1 | ☐2 | ☐3 | ☐4 |

**58.** Do you have a physical or health condition that keeps you from doing some things other kids your age do? (For example, school activities, sports, or getting together with friends.)

☐ NO

☐ YES, a physical disability (for example, deafness, cerebral palsy, wheelchair, or something else)

☐ YES, a long term illness (for example, diabetes, asthma, or something else)

☐ YES, overweight

☐ YES, something else (*please specify*) _____



PLEASE CHECK THAT YOU HAVE ANSWERED ALL QUESTIONS ON THIS PAGE BEFORE TURNING TO THE NEXT PAGE

| Which answer is more like you? | Very Underweight | Slightly Underweight | About the Right Weight | Slightly Overweight | Very Overweight |
|---|---|---|---|---|---|
| **59.** How do you rate your body weight? | ☐1 | ☐2 | ☐3 | ☐4 | ☐5 |

| How often do you feel like this? | Never | Hardly Ever | Sometimes | Often | Always |
|---|---|---|---|---|---|
| **60.** How often do you like the way you look? | ☐1 | ☐2 | ☐3 | ☐4 | ☐5 |

| How often does this happen? | Never | 1 or 2 Times a Week | 3 or 4 Times a Week | 5 or 6 Times a Week | Every Day |
|---|---|---|---|---|---|
| **61.** How often do you eat breakfast? | ☐1 | ☐2 | ☐3 | ☐4 | ☐5 |
| **62.** How often do your parents or other adult family members eat meals with you? | ☐1 | ☐2 | ☐3 | ☐4 | ☐5 |
| **63.** How often do you eat food like pop, candy, potato chips, or something else? | ☐1 | ☐2 | ☐3 | ☐4 | ☐5 |
| **64.** How often do you get a good night's sleep? | ☐1 | ☐2 | ☐3 | ☐4 | ☐5 |

| What time do you do this? | Before 9:00pm | Between 9:00pm and 10:00pm | Between 10:00pm and 11:00pm | Between 11:00pm and Midnight | After 12:00am/ Midnight |
|---|---|---|---|---|---|
| **65.** What time do you usually go to bed during the weekdays? | ☐1 | ☐2 | ☐3 | ☐4 | ☐5 |



PLEASE CHECK THAT YOU HAVE ANSWERED ALL QUESTIONS ON THIS PAGE BEFORE TURNING TO THE NEXT PAGE

## About My After School Time

**66.** On school days, who are you usually with for MOST of the afternoon **(from AFTER SCHOOL to 6:00pm)?** *(Please check ALL the people you are with.)*

☐ By Myself
☐ Friend(s) about my age
☐ Mother (or Step Mother, Foster Mother)
☐ Father (or Step Father, Foster Father)
☐ Younger Brothers/Sisters
☐ Older Brothers/Sisters
☐ Other Adult(s) (for example, grandparent, aunt or uncle, coach, babysitter)
☐ Other (Describe) _____

| **67. How often do you go to these places after school until 6:00pm?** | **Never** | **Once or Twice a Week** | **Three or Four Times a Week** | **Every Day** |
|---|---|---|---|---|
| a. I go home. | ☐1 | ☐2 | ☐3 | ☐4 |
| b. I stay at school to participate in after school activities (for example, sports, tutoring, clubs). | ☐1 | ☐2 | ☐3 | ☐4 |
| c. I go to an after school program/daycare (in my school or someplace else). | ☐1 | ☐2 | ☐3 | ☐4 |
| d. I go to a friend's house. | ☐1 | ☐2 | ☐3 | ☐4 |
| e. I go to a park, playground, or community centre. | ☐1 | ☐2 | ☐3 | ☐4 |
| f. I hang out at the mall or stores. | ☐1 | ☐2 | ☐3 | ☐4 |
| g. I go someplace else, for example, a family member's home, or other places. | ☐1 | ☐2 | ☐3 | ☐4 |



PLEASE CHECK THAT YOU HAVE ANSWERED ALL QUESTIONS ON THIS PAGE BEFORE TURNING TO THE NEXT PAGE

*Important definition* – The following questions ask you about activities that are **ORGANIZED**. That is, the questions are about activities that are planned and supervised by a teacher, instructor, adult, coach, or volunteer. This section will also ask about individual sports *and* team sports.

- We would like to know what you did after school LAST WEEK. If last week was not a normal week, then think of a recent week that was a normal week. For example, if you stayed home from school, or went on a trip last week, then think of what you did two weeks ago.
- Please answer each question by first checking YES or NO if you participated in certain activities.
- If you check NO, go DOWN to the next question.
- If you check YES, go ACROSS and answer the amount of days.

**SAMPLE QUESTIONS**

During last week AFTER SCHOOL (3:00pm to 6:00pm), did you:

| | NO | YES | | YES, 1-2 days during the week | YES, 3-4 days during the week | YES, 5 days, every day of the week |
|---|---|---|---|---|---|---|
| Eat a snack? | ☐ ↓ | ☐ | ⇢ | ☐ | ☐ | ☐ |
| Walk home from school? | ☐ | ☐ | ⇢ | ☐ | ☐ | ☐ |

**68.** During last week **AFTER SCHOOL (3:00pm to 6:00pm)**, did you participate in:

| | NO | YES | | YES, 1-2 days during the week | YES, 3-4 days during the week | YES, 5 days, every day of the week |
|---|---|---|---|---|---|---|
| **a.** Educational lessons or activities (for example, tutoring, math, language school, or something else)? | ☐ ↓ | ☐ | ⇢ | ☐ | ☐ | ☐ |
| **b.** Art or music lessons (for example, drawing, painting, playing a musical instrument, or something else)? | ☐ ↓ | ☐ | ⇢ | ☐ | ☐ | ☐ |
| **c.** Youth organizations (for example, Scouts, Girl Guides, Boys and Girls Clubs, or something else)? | ☐ ↓ | ☐ | ⇢ | ☐ | ☐ | ☐ |
| **d.** Individual sports with a coach or instructor (for example, swimming, dance, gymnastics, tennis, skating, or something else)? | ☐ ↓ | ☐ | ⇢ | ☐ | ☐ | ☐ |
| **e.** Team sports with a coach or instructor (for example, basketball, hockey, soccer, football, or something else)? | ☐ | ☐ | ⇢ | ☐ | ☐ | ☐ |



PLEASE CHECK THAT YOU HAVE ANSWERED ALL QUESTIONS ON THIS PAGE BEFORE TURNING TO THE NEXT PAGE ⇨

*Important definition* – The following questions ask you about activities that are **NOT ORGANIZED**. That is, these questions are about activities that are NOT planned and usually NOT supervised by a teacher, instructor, adult, coach, or volunteer.

- Please answer each question like the above section, and if you check YES, go ACROSS and answer the amount of days **AND** the amount of time you participated in the activity.

**SAMPLE QUESTIONS**

During last week AFTER SCHOOL (3:00pm to 6:00pm), did you:

| | NO | YES | YES, 1-2 days during the week | YES, 3-4 days during the week | YES, 5 days, every day of the week | ABOUT how much time did you usually spend doing the activity on one of those days? | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Less than 30 minutes | 30 minutes to 1 hour | More than 1 hour but less than 2 hours | 2 or more hours |
| Take a nap | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Talk to a friend on the phone | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

**69.** During last week **AFTER SCHOOL (3:00pm to 6:00pm)**, did you:

| | NO | YES | YES, 1-2 days during the week | YES, 3-4 days during the week | YES, 5 days, every day of the week | ABOUT how much time did you usually spend doing the activity on one of those days? | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Less than 30 minutes | 30 minutes to 1 hour | More than 1 hour but less than 2 hours | 2 or more hours |
| **a.** Do sports and/or exercise for fun (for example, shooting hoops, swimming, yoga, dancing, or something else)? | ☐ ↓ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| **b.** Do homework? | ☐ ↓ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| **c.** Watch TV (including watching videos or DVDs)? | ☐ ↓ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |



PLEASE CHECK THAT YOU HAVE ANSWERED ALL QUESTIONS ON THIS PAGE BEFORE TURNING TO THE NEXT PAGE

| | NO | YES | | YES, 1-2 days during the week | YES, 3-4 days during the week | YES, 5 days, every day of the week | | Less than 30 minutes | 30 minutes to 1 hour | More than 1 hour but less than 2 hours | 2 or more hours |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **d.** Play video or computer games (for example, Game Boy, Play Station, Xbox, on-line computer games)? | ☐ ↓ | ☐ | ⇢ | ☐ | ☐ | ☐ | ⇢ | ☐ | ☐ | ☐ | ☐ |
| **e.** Instant Message (for example, MSN, e-mail, or something else)? | ☐ ↓ | ☐ | ⇢ | ☐ | ☐ | ☐ | ⇢ | ☐ | ☐ | ☐ | ☐ |
| **f.** Read for fun? | ☐ ↓ | ☐ | ⇢ | ☐ | ☐ | ☐ | ⇢ | ☐ | ☐ | ☐ | ☐ |
| **g.** Do household chores (for example, clean your room, wash the dishes, feed a pet, or something else)? | ☐ ↓ | ☐ | ⇢ | ☐ | ☐ | ☐ | ⇢ | ☐ | ☐ | ☐ | ☐ |
| **h.** Practice a musical instrument (for example, drums, clarinet, violin, or something else)? | ☐ ↓ | ☐ | ⇢ | ☐ | ☐ | ☐ | ⇢ | ☐ | ☐ | ☐ | ☐ |
| **i.** Do Arts & Crafts (including painting, drawing, or something else)? | ☐ ↓ | ☐ | ⇢ | ☐ | ☐ | ☐ | ⇢ | ☐ | ☐ | ☐ | ☐ |
| **j.** Hang out with friends? | ☐ | ☐ | ⇢ | ☐ | ☐ | ☐ | ⇢ | ☐ | ☐ | ☐ | ☐ |



PLEASE CHECK THAT YOU HAVE ANSWERED ALL QUESTIONS ON THIS PAGE BEFORE TURNING TO THE NEXT PAGE ⇨

**70.** Sometimes, what people do does not exactly match what they WANT to do! Think about what you **WISH** you could do after school that you are **NOT** already doing from **3:00pm to 6:00pm**.
Are you already doing the activity you wish you could be doing?

☐ **NO** ☐ **YES**

If NO, list ONE of the activities you wish you could do: _____

If YES, what are you already doing that you wished for: _____

**71.** Where would you like this activity to be?

☐ School
☐ Community Centre
☐ Home
☐ Park or Playground
☐ Other (Describe) _____

**72.** What stops you from participating in the activities that you want to participate in after school? *(Check all of the things that stop you.)*

☐$_1$ I have to go straight home after school.
☐$_2$ It is too difficult to get there.
☐$_3$ The activity that I want is not offered.
☐$_4$ The schedule does not fit the times that I can attend.
☐$_5$ It's not safe for me to go.
☐$_6$ I have too much homework to do.
☐$_7$ My parents do not approve.
☐$_8$ It costs too much.
☐$_9$ I need to take care of brothers or sisters or do other things at home.
☐$_{10}$ I am afraid I will not be good enough in that activity.
☐$_{11}$ I'm too busy.
☐$_{12}$ I don't know what is available.
☐$_{13}$ None of my friends are interested or want to go.
☐$_{14}$ Other, please describe _____


**YOU ARE FINISHED WITH THE SURVEY! BEFORE YOU CLOSE YOUR BOOKLET, TURN TO THE NEXT PAGE AND READ THE INSTRUCTIONS.**

THANK YOU FOR YOUR HELP!



PLEASE CHECK THAT YOU HAVE ANSWERED ALL QUESTIONS ON THIS PAGE BEFORE TURNING TO THE NEXT PAGE

**IMPORTANT!**

Some of the questions on this survey may have made you think of problems you are having with other students.

If you are having problems with other students at school, please know that you do not have to deal with it alone. You can get help.

You can talk to your parents or other family members. They may have some ideas that you have not yet thought of.

You can talk to any adult that you trust at the school such as a counsellor, a teacher or coach, a custodian, a youth worker, a bus driver, or a friend to help you go to an adult.

We want to help you.

- Please check one box only: YES **or** NO
- Print your name ONLY IF YOU CHECK OFF THE "YES" BOX – YOU WOULD LIKE HELP
- Remove this page from the survey and hand it to your teacher so that your answers on the survey stay PRIVATE

Do you want help with problems you are having with other students?

☐ NO, everything is ok

☐ YES, I would like help – Please print your name below

_____

Print your name ONLY IF YOU PUT **YES** (write your first name and last name)

THANK YOU FOR COMPLETING THIS SURVEY!

**Remove this page from your survey and hand it to your teacher.**

**Appendix G: MDI Measures Key**

UNDERSTANDING OUR LIVES

# MIDDLE YEARS DEVELOPMENT INSTRUMENT:

(MDI) - Survey of Grade 4 Students

2010-2011

*Measures Key*

*"It is critical to the future of a society that its children become competent adults and productive citizens. Thus, society and parents have a stake in the development of competence and in understanding the processes that facilitate it and undermine it."*

(Masten & Coatsworth, 1998, p. 205)





1

## 1. OVERVIEW OF SUBDOMAINS

| DIMENSION | CONSTRUCTS ASSESSED |
|---|---|
| **Social and Emotional Development** | Empathy, Optimism, Prosocial behaviour, General self-concept, Satisfaction with life (Happiness), Sadness, Anxiety |
| **Connectedness** | Important adults in school, Supportive relationships with neighbourhood adults, parents/guardians/adults at home, Knowledge of available community resources; Peer belonging and friendship intimacy |
| **School Experiences** | Academic self-concept, School climate, School belonging, Motivation, Future aspirations, Victimization (Physical, Verbal, Social, Cyber) |
| **Physical Health and Well-Being** | Overall health, Body image, Health habits (Nutrition, Sleep, Meals with family) |
| **Constructive Use of Time After-School** | Where children go after school, Organized and not organized activities, Wishes for after-school time, Barriers to after-school activities |

## 2. BACKGROUND INFORMATION

**Are you a boy or a girl?** *(Circle One)* BOY GIRL

**1. What is your birth date?** _____ _____ _____
Month Day Year

**2. Which of these adults do you live with MOST OF THE TIME?** *(Check all adults you live with.)*
□ Mother □ Grandmother □ Second father
□ Father □ Grandfather □ Part time with each parent
□ Stepfather □ Second mother □ Foster parent(s) or caregiver(s)
□ Stepmother
□ Other adults (Write in the space below, for example, aunt, uncle, mom's boyfriend or girlfriend, dad's boyfriend or girlfriend): _____

**3. How many brothers or sisters do you have?**
□ 0 □ 1 □ 2 □ 3 □ 4 □ 5 □ 6 □ 7 or more

**4. What is the first language you learned at home?** *(You can check more than one if you need to.)*
□ Aboriginal language
If yes, which one? _____
□ English □ Hindi □ Punjabi
□ Cantonese □ Japanese □ Spanish
□ Filipino/Tagalog □ Korean □ Vietnamese
□ French □ Mandarin □ Other_____

**6. Which language(s) do you speak at home?** *(You can check more than one if you need to.)*
□ Aboriginal language
If yes, which one? _____
□ English □ Hindi □ Punjabi
□ Cantonese □ Japanese □ Spanish
□ Filipino/Tagalog □ Korean □ Vietnamese
□ French □ Mandarin □ Other_____

**7. How difficult is it for you to read in English?**
□ Very hard □ Hard □ Easy □ Very easy

## 3. SUBDOMAINS

**Dimension 1: Social and Emotional Development**
**23 Items**

***Empathy***

# Question
1. I feel sorry for other kids who don't have the things that I have.
2. When I see someone being treated mean it bothers me.
3. I am a person who cares about the feelings of others.

Rating Scale: 1=Disagree a lot; 2=Disagree a little; 3=Don't agree or disagree; 4=Agree a little; 5=Agree a lot

**Source:** Interpersonal Reactivity Index; Davis, 1983, modified by Eisenberg et al., 2002

Davis, M. H. (1983). Measuring individual differences in empathy: Evidence for a multidimensional approach. *Journal of Personality and Social Psychology, 44,* 113-126.

***Optimism***

# Question
4. I have more good times than bad times.
5. I believe more good things than bad things will happen to me.
6. I start most days thinking I will have a good day.

Rating Scale: 1=Disagree a lot; 2=Disagree a little; 3=Don't agree or disagree; 4=Agree a little; 5=Agree a lot

**Source:** Resiliency Inventory Subscale; Noam & Goldstein, 1998; Oberle, Schonert-Reichl, & Thomson, 2010; Song, 2003

Noam, G. G., & Goldstein, L. S. (1998). *The Resilience Inventory.* Unpublished Protocol.

Oberle, E., Schonert-Reichl, K. A., & Thomson, K. C. (2010). Understanding the link between social and emotional well-being and peer relations in early adolescence: Gender-specific predictors of peer acceptance. *Journal of Youth and Adolescence, 39,* 1330-1342.

Song, M. (2003). *Two studies on the Resilience Inventory (RI): Toward the goal of creating a culturally sensitive measure of adolescence resilience.* Unpublished doctoral dissertation, Harvard University, MA.

***Prosocial Behaviour***

# Question
**Since the start of this school year,**
21. I cheered someone up who was feeling sad.
22. I helped someone who was being picked on.
23. I helped someone who was hurt.

Rating Scale: 1=Not at all this school year; 2=Once or a few times; 3=About every month; 4=About every week; 5=Many times a week

**Source:** Youth Outcome Measures for *AfterSchool KidzLit*™, Developmental Studies Center, 2001

Youth Outcome Measures for *AfterSchool KidzLit*™ Evaluation – "Positive Behavior" subscale.
Developmental Studies Center, www.devstu.org; www.kidzafterschool.org; 1-(800)-666-7270
2000 Embarcadero, Suite 305, Oakland, CA 94606
http://199.236.99.206/pdfs/afterschool/askl/kidzlit_measures.pdf

***General Self-Concept***

| # | Question |
|---|---|
| 7. | In general, I like being the way I am. |
| 8. | Overall, I have a lot to be proud of. |
| 9. | A lot of things about me are good. |

Rating Scale: 1=Disagree a lot; 2=Disagree a little; 3=Don't agree or disagree; 4=Agree a little; 5=Agree a lot

**Source:** Self Description Questionnaire (SDQ), Marsh, 1988

Marsh, H. W. (1988). *Self-Description Questionnaire: A theoretical and empirical basis for the measurement of multiple dimensions of preadolescent self-concept: A test manual and a research monograph*. San Antonio, Texas: The Psychological Corporation.

***Satisfaction with Life***

| # | Question |
|---|---|
| 16. | In most ways my life is close to the way I would want it to be. |
| 17. | The things in my life are excellent. |
| 18. | I am happy with my life. |
| 19. | So far I have gotten the important things I want in life. |
| 20. | If I could live my life over, I would have it the same way. |

Rating Scale: 1=Disagree a lot; 2=Disagree a little; 3=Don't agree or disagree; 4=Agree a little; 5=Agree a lot

**Source:** Modified for children from Diener et al., 1985; Gadermann, Schonert-Reichl, & Zumbo, 2010

Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The Satisfaction with Life Scale. *Journal of Personality Assessment, 49*, 71-75.

Gadermann, A. M., Schonert-Reichl, K. A., & Zumbo, B. D. (2010). Investigating validity evidence of the Satisfaction with Life Scale adapted for children. *Social Indicators Research, 96*, 229-247.

***Psychological Well-Being – Sadness and Anxiety***

| # | Question |
|---|---|
| 10. | I feel unhappy a lot of the time. (Sadness Item) |
| 11. | I feel upset about things. (Sadness Item) |
| 12. | I feel that I do things wrong a lot. (Sadness Item) |
| 13. | I worry about what other kids might be saying about me. (Anxiety Item) |
| 14. | I worry a lot that other people might not like me. (Anxiety Item) |
| 15. | I worry about being teased. (Anxiety Item) |

Rating Scale: 1=Disagree a lot; 2=Disagree a little; 3=Don't agree or disagree; 4=Agree a little; 5=Agree a lot

**Source:** Seattle Personality Questionnaire, Kusche, Greenberg, & Beilke, 1988; Rains, 2003

Kusche, C. A., Greenberg, M. T., & Beilke, R. (1988). *Seattle Personality Questionnaire for young school-aged children*. Unpublished manuscript. University of Washington, Department of Psychology, Seattle.

Rains, C. (2003). *Seattle Personality Questionnaire—Original* (Fast Track ProjectTechnical Report). Retrieved October 2005 from sanford.duke.edu/centers/child/fasttrack/techrept/s/spq/spq3tech.pdf

**Dimension 2: Connectedness**

| 19 Items |
|---|
| ***Important Adults in My School*** |
| # Question<br>24. Are there any adults who are **important to you** at your **school**?<br><br>Rating Scale: 1=NO; 2=YES<br><br>**If YES,** list all the adults who are **important to you** at your **school**. You can use initials or names, for example 1. H.R. for the school nurse or Miss H. for the Principal.) You do not have to fill all six spaces.<br><br>Response Item: 1._____ through 6._____<br><br>**Source:** Blyth, D. A., Hill, J. P., & Thiel, K. S., 1982, modified by Schonert-Reichl & Buote, 2004<br><br>Blyth, D. A., Hill, J. P., & Thiel, K. S. (1982). Early adolescents' significant others: Grade and gender differences in perceived relationships with familial and non-familial adults and young people. *Journal of Youth and Adolescence*, *11,* 425-450.<br><br>Schonert-Reichl, K. A., & Buote, D. (2004, March). *Participation in structured school activities: Relations to social competence among inner-city Canadian early adolescents.* Poster presented at the biennial meeting of the Society for Research on Adolescence, Baltimore, MD.<br><br>**How true is each statement for you?At my school, there is a teacher or another adult …**<br>25. … who really cares about me.<br>26. … who believes that I will be a success.<br>27. … who listens to me when I have something to say.<br><br>Rating Scale: 1= Not at all true; 2=A little true; 3=Pretty much true; 4=Very much true<br><br>**Source:** California Healthy Kids Survey – Middle School Questionnaire, 2004, M7: Module B<br><br>WestEd (2003). *California Healthy Kids Survey: Middle School Questionnaire* (Version M7 - Fall 2004); Module B: Resilience and Youth Development. Retrieved from http://wwwstatic.kern.org/gems/schcom/ModuleBMiddleSchoolEnglish20.pdf |
| ***Parent/Other Adult Who Lives in My Home*** |
| # Question<br>The next four questions are about your parents (or guardians) or other adults who live in your home. Parents can be biological parents, adoptive parents, stepparents, same sex parents or foster parents.<br><br>**In my home, there is a parent or another adult…**<br>28. … who believes that I will be a success.<br>29. … who listens to me when I have something to say.<br>30. … who I can talk to about my problems.<br>31. … I care about what my parents (or guardians) think of me.<br><br>Rating Scale: 1= Not at all true; 2=A little true; 3=Pretty much true; 4=Very much true<br><br>**Source:** (#28-30) California Health Kids Survey; (#31) Modified from Health Behavior in School-Aged Children (HBSC)<br><br>California Health Kids Survey http://www.cdsnetwork.org/conf-assets/dan08/pdfs/healthy_kids.pdf<br><br>Currie, C., et al. (Eds) (2008). *Inequalities in young people's health: international report from the HBSC 2006/06 survey, (Health Policy for Children and Adolescents, No.5).* WHO Regional Office for Europe, Copenhagen. Retrieved from http://www.euro.who.int/Document/E91416.pdf |
| ***Important Adults in My Neighborhood/Community*** |

# Question

**Please answer the following questions thinking about your neighborhood/community.**
**In my neighborhood/community (not from your school or family), there is an adult…**

32. …who really cares about me.
33. …who believes that I will be a success.
34. …who listens to me when I have something to say.

Rating Scale: 1= Not at all true; 2=A little true; 3=Pretty much true; 4=Very much true

**Source:** California Healthy Kids Survey – Middle School Questionnaire, 2004, M7: Module B

WestEd (2003). *California Healthy Kids Survey: Middle School Questionnaire* (Version M7 - Fall 2004); Module B: Resilience and Youth Development. Retrieved from http://wwwstatic.kern.org/gems/schcom/ModuleBMiddleSchoolEnglish20.pdf

***My Neighborhood/Community***

# Question

35. Are there places in your neighborhood/community that provide programs for kids your age, like sports (for example, swimming, soccer, hockey, art, dance, music classes, and other clubs and activities?
36. Are there safe places in your neighborhood/community where you feel comfortable to hang out with friends, like playgrounds, parks, or community centers?

Rating Scale: 1=No; 2=Yes; 3=Don't know

**Source:** Chapin Hall Center for Children, University of Chicago

Goerge, R. M., & Chaskin, R. J. (2004). *What ninth-grade students in Chicago public schools do in their out-of-school time: Preliminary results.* Chapin Hall Center for Children, University of Chicago.

***Friendship***

# Question

**Now we would like to ask you about you and your friend(s) and peers.**

37. I feel part of a group of friends that do things together. (Peer belonging item)
38. I feel that I usually fit in with other kids around me. (Peer belonging item)
39. When I am with other kids my age, I feel I belong. (Peer belonging item)

40. I have at least one really good friend I can talk to when something is bothering me. (Friendship intimacy item)
41. I have a friend I can tell everything to. (Friendship intimacy item)
42. There is somebody my age who really understands me. (Friendship intimacy item)

Rating Scale: 1=Disagree a lot; 2=Disagree a little; 3=Don't agree or disagree; 4=Agree a little; 5=Agree a lot

**Source:** Relational Provisional Loneliness Questionnaire (RPLQ), Hayden-Thomson, 1989

Hayden-Thomson, L. K. (1989). *The development of the Relational Provisions Loneliness Questionnaire for children.* Unpublished doctoral dissertation, University of Waterloo, Waterloo, Ontario, Canada.

**Dimension 3: School Experiences**

| 16 Items |
|---|
| ***Academic Self-Efficacy*** |
| # Question<br>43. I am certain I can learn the skills taught in school this year.<br>44. If I have enough time, I can do a good job on all my school work.<br>45. Even if the work in school is hard, I can learn it.<br><br>Rating Scale: 1= Disagree a lot; 2=Disagree a little; 3=Don't agree or disagree; 4=Agree a little; 5=Agree a lot<br><br>**Source:** Self Beliefs/ Academic Self-Efficacy, Roeser, Midgley, & Urdan, 1996<br><br>Roeser, W.R., Midgley, C., & Urdan, T.C. (1996). Perceptions of the school psychological environment and early adolescents' psychological and behavioral functioning in school: the mediating role of goals and belonging. *Journal of Educational Psychology, 88*(3), 408-422. |
| ***School Supportiveness*** |
| # Question<br>46. Teachers and students treat each other with respect in this school.<br>47. People care about each other in this school.<br>48. Students in this school help each other, even if they are not friends.<br><br>Rating Scale: 1=Disagree a lot; 2=Disagree a little; 3=Don't agree or disagree; 4=Agree a little; 5=Agree a lot<br><br>**Source:** School Belonging, Battistich et al., 1997<br><br>Battistich, V., Solomon, D., Watson, S. & Schaps, E. (1997). Caring school communities. *Educational Psychologist, 32,* 137-151. |
| ***School Belonging*** |
| # Question<br>49. I feel like I belong in this school.<br>50. I feel like I am important to this school.<br><br>Rating Scale: 1=Disagree a lot; 2=Disagree a little; 3=Don't agree or disagree; 4=Agree a little; 5=Agree a lot<br><br>**Source:** Relatedness/ School Belonging, Roeser, Midgley, & Urdan, 1996<br><br>Roeser, W.R., Midgley, C., & Urdan, T.C. (1996). Perceptions of the school psychological environment and early adolescents' psychological and behavioral functioning in school: the mediating role of goals and belonging. *Journal of Educational Psychology, 88*(3), 408-422. |
| ***Future Goals & Ambitions*** |
| # Question<br>51. When I grow up, I have goals and plans for the future.<br><br>Rating Scale: 1=Disagree a lot; 2=Disagree a little; 3=Don't agree or disagree; 4=Agree a little; 5=Agree a lot<br><br>**Source**<br>"My Future" measure; Also in Resilience & Youth Development Module of the California Healthy Kids Survey<br><br>WestEd (2003). *California Healthy Kids Survey: Middle School Questionnaire* (Version M7 - Fall 2004); Module B: Resilience and Youth Development. Retrieved from http://wwwstatic.kern.org/gems/schcom/ModuleBMiddleSchoolEnglish20.pdf |
| |

***Motivation (Relationships/Achievement/Activities/Mastery)***

# Question

How important is it to you to do the following in school:

52.a) Make friends?

52.b) Get good grades?

52.c) Learn new things?

Rating Scale: 1= Not important at all; 2= Not very important; 3 = Somewhat important; 4= Very important

**Source:** NLSCY (Section B3); Self-developed item (Stats Canada)

***Victimization***

# Question

Important definition – **Bully** – There are a lot of different ways to bully someone, but a bully has some advantage (stronger, more popular, or something else), wants to hurt the other person (it's not an accident), and does so repeatedly and unfairly. Sometimes a group of students will bully another student.

**The next four questions might make you feel uncomfortable, but it is important for us to know. Please answer the questions honestly.**

**This school year, how often have you been bullied by other students in the following ways?**

53. Physical Bullying (for example, someone hit, shoved, or kicked you, spat at you, beat you up, or damaged or took your things without permission).

54. Verbal Bullying (for example, someone called you names, teased, humiliated, threatened you, or made you do things you didn't want to do).

55. Social Bullying (for example, someone left you out, excluded you, gossiped and spread rumors about you, or made you look foolish).

56. Cyberbullying (for example, someone used the computer or text messages to exclude, threaten, humiliate you, or to hurt your feelings).

Rating Scale: 1=Not at all this school Year; 2=Once or a few times; 3=About every month; 4=About every week; 5=Many times a week

**Source:** Modified from Safe School Student Survey, Grades 4-7 (Canadian Public Health Association)

Safe School Survey - Canadian Public Health Association; Totten, Quigley & Morgan, 2004; Adapted from the *Safe School Survey*, developed by the West Vancouver School District of BC in consultation with Dr. Shelley Hymel, UBC, Dr. Aaron White, WVSD, and Dr. Ishu Ishiyama, UBC www.cpha.ca/antibullying/English/backinfo/Assessment_Toolkit.pdf

## Dimension 4: Physical Health and Well-Being

**9 Items**

***Overall Health***

# Question

57. In general, how would you describe your health?

Rating Scale: 1=Poor; 2=Fair; 3=Good; 4=Excellent

58. Do you have a physical or health condition that keeps you from doing some things other kids your age do? (For example, school activities, sports, or getting together with friends.)

Rating Scale: 1=NO; 2=YES, a physical disability (for example, deafness, cerebral palsy, wheelchair, or something else); 3=YES, a long term illness (for example, diabetes, asthma, or something else); 4=YES, overweight; 5=YES, something else (please specify)_____

**Source:** Youth Health Survey, McCreary Centre Society (Health)

McCreary Centre Society (2008). *A picture of health: Highlights from the 2008 BC Adolescent Health Survey.* Retrieved from http://www.mcs.bc.ca/pdf/AHSIV_APictureOfHealth.pdf

The question "How is your health in general" (poor, fair, good, very good, excellent) is also in the Teen Health Profile,

***Body Image***

# Question

59. How do you rate your body weight?

Rating Scale: 1=Very underweight; 2=Slightly underweight; 3=About the right weight; 4=Slightly overweight; 5=Very overweight

**Source:** Modified from California Healthy Kids Survey, 2005; modified from Health Behavior in School-Aged Children

WestEd (2003). *California Healthy Kids Survey: Middle School Questionnaire* (Version M7 - Fall 2004); Module B: Resilience and Youth Development. Retrieved from http://wwwstatic.kern.org/gems/schcom/ModuleBMiddleSchoolEnglish20.pdf

Health Behavior in School-Aged Children http://www.phac-aspc.gc.ca/dca-dea/pdfa-zenglish-eng.php#t03

60. How often do you like the way you look?

Rating Scale: 1=Never; 2=Hardly ever; 3=Sometimes; 4=Often; 5=Always

**Source:** Item from NLSCY; response format from Child Health and Illness Profile (CHIP; About me)

Riley, A. W., Forrest, C., Starfield, B., Rebok, G., Green, B., & Robertson, J. (2001). *Child Health and Illness Profile-Child Edition (CHIP-CE).* Baltimore, MD: The Johns Hopkins University, 2001.

***Nutrition Habits***

# Question

61. How often do you eat breakfast?

Rating Scale: 1=Never; 2=Once a week; 3=2 times a week; 4=3 times a week; 5=4 times a week; 6=5 times a week; 7=6 times a week; 8=Every day

**Source:** Modified from Health Behavior in School-Aged Children; McCreary Centre Society (Food section); Youth Health Survey

Health Behavior in School-Aged Children http://www.hbsc.org

McCreary Centre Society (2008). *A picture of health: Highlights from the 2008 BC Adolescent Health Survey.* Retrieved from http://www.mcs.bc.ca/pdf/AHSIV_APictureOfHealth.pdf

62. How often do your parents or another adult family member eat meals with you?

Rating Scale: 1=Never; 2=Once a week; 3=2 times a week; 4=3 times a week; 5=4 times a week; 6=5 times a week; 7=6 times a week; 8=Every day

**Source:** Modified from CHIP-AE: Teen Health Profile-Child Edition (Resilience)
Johns Hopkins University, 1999.
Or
Modified from Chapin Hall Center for Children, University of Chicago

Goerge, R. M., & Chaskin, R. J. (2004). *What ninth-grade students in Chicago public schools do in their out-of-school time: Preliminary results.* Chapin Hall Center for Children, University of Chicago.

63. How often do you eat food like pop, candy, potato chips, or something else?

Rating Scale: 1=Never; 2=Once a week; 3=2 times a week; 4=3 times a week; 5=4 times a week; 6=5 times a week; 7=6 times a

week; 8=Every day

**Source:** Modified from Health Behavior in School-Aged Children; UN Association in Canada, Health Perceptions Survey of Children & Youth (Pilot Version) (Your health)

Health Behavior in School-Aged Children http://www.hbsc.org

***Sleep***

# Question

64. How often do you get a good night's sleep?

Rating Scale: 1=Never; 2=Once a week; 3=2 times a week; 4=3 times a week; 5=4 times a week; 6=5 times a week; 7=6 times a week; 8=Every day

**Source**
UN Association in Canada, Health Perceptions Survey of Children & Youth (Pilot Version) (Your health)

65. What time do you usually go to bed during the weekdays?

Rating Scale: 1=Before 9:00pm; 2=Between 9:00pm and 10:00pm; 3=Between 10:00pm and 11:00pm; 4=Between 11:00pm and 12:00am; 5=After 12:00am/midnight

**Source:** United Way of the Lower Mainland (UWLM) Daily Diary

Schonert-Reichl, K. A. (2007). *Middle childhood inside and out: The psychological and social world of children ages 9 to 12.* Burnaby, BC: United Way of the Lower Mainland

## Dimension 5: Constructive Use of Time
**26 Items**

***After School***

# Question

66. On school days, who are you usually with for **most** of the afternoon (from **after school** to **6:00pm**)? *(Please check **all** the people you are with.)*

Response Items: 1= By Myself; 2=Friend(s) about my age; 3=Mother (or stepmother, foster mother); 4=Other Adult(s) (for example, grandparent, aunt or uncle, coach, babysitter); 5=Other (describe)_____ 6=Father (or stepfather, foster father); 7=Younger brothers/sisters; 8=Older brothers/sisters

How often do you go to these places after school until 6pm?
67.a I go home.
67.b I stay at school to participate in afterschool activities (for example, sports, tutoring, clubs).
67.c I go to an afterschool program/daycare (in my school or someplace else).
67.d I go to a friend's house.
67.e I go to a park, playground, or community centre.
67.f I hang out at the mall or stores.
67.g I go someplace else, for example, a family member's home, or other places.

Rating Scale: 1=Never; 2=Once a week; 3=Twice a week; 4=3 times a week; 5=4 times a week; 6=5 times a week (every day)

**Source:** UWLM Daily Diary

Schonert-Reichl, K. A. (2007). *Middle childhood inside and out: The psychological and social world of children ages 9 to 12.* Burnaby, BC: United Way of the Lower Mainland

***Organized Activities***

# Question

The next questions are about activities that are **organized**. That is, the questions are about activities that are planned and supervised by a teacher, instructor, adult, coach, or volunteer.

We would like to know what you did after school **last week**.

During last week **after school (3:00 to 6:00pm)**, how many days did you participate in:
68.a Educational lessons or activities (for example, tutoring, math, language school, or something else)?
68.b Art or music lessons (for example, drawing, painting, playing a musical instrument, or something else)?
68.c Youth organizations (for example, Scouts, Girl Guides, Boys and Girls Clubs, or something else)?
68.d Individual sports with a coach or instructor (for example, swimming, dance, gymnastics, tennis, skating, or something else)?
68.e Teams sports with a coach or instructor (for example, basketball, hockey, soccer, football, or something else)?

Response Items: 1=Never; 2=Once a week; 3=Twice a week; 4=3 times a week; 5=4 times a week; 6=5 times a week (every day)

**Source:** UWLM Daily Diary

Schonert-Reichl, K. A. (2007). *Middle childhood inside and out: The psychological and social world of children ages 9 to 12.* Burnaby, BC: United Way of the Lower Mainland

***Not Organized Activities***

# Question

The next questions ask you about other activities that you might do after school. That is, these questions are about activities that are not planned and usually not supervised by a teacher, instructor, adult, coach, or volunteer.

During last week **after school (3:00 to 6:00pm)**, how many days did you…
69.a Do sports and/or exercise for fun (for example, shooting hoops, swimming, yoga, dancing, or something else)?
69.b Do homework?
69.c Watch TV (including watching videos or DVDs)?
69.d Play video or computer games (for example, Game Boy, Play Station, Xbox, on-line computer games)?
69.e Instant Message (for example, MSN, e-mail, or something else)?
69.f Read for fun?
69.g Do household chores (for example, clean your room, wash the dishes, feed a pet, or something else)?
69.h Practice a musical instrument (for example, drums, clarinet, violin, or something else)?
69.i Do Arts & Crafts (including painting, drawing, or something else)?
69.j Hang out with friends?

2-part response system:

Part 1
Response Items: 1=Never; 2=Once a week; 3=Twice a week; 4=3 times a week; 5=4 times a week; 6=5 times a week (every day)

Part 2
About how much time did you usually spend doing the activity on one of those days?

Response Items: 1=Less than an 30 minutes; 2=30 minutes to 1 hour; 3= 1-2 hours; 4=2 or more hours

**Source:** UWLM Daily Diary

Schonert-Reichl, K. A. (2007). *Middle childhood inside and out: The psychological and social world of children ages 9 to 12.* Burnaby, BC: United Way of the Lower Mainland

***Wishes***

# Question

70. Sometimes, what people do does **not** exactly match what they **want** to do! Think about what you **want** to do after school from **3:00pm to 6:00pm**. Are you already doing the activity you wish you could be doing?

1=NO; 2=YES

Response Items:
If NO, please list **one** activity you wish you could do:_____

Where would you like this activity to be?

Response Items: 1=School; 2=Home; 3=Park or playground; 4=Community centre; 5=Other (describe)_____

If YES, please list **one** activity that you are already doing (and want to be doing):_____

Where do you do this activity?

Response Items: 1=School; 2=Home; 3= Park or Playground; 4=Community centre; 5=Other (describe) _____

72. What stops you from participating in the activities that you want to participate in after school? *(Check all of the things that stop you.)*

Response Items:
1=I have to go straight home after school.
2=It is too difficult to get there.
3=The activity that I want is not offered.
4=The schedule does not fit the times that I can attend.
5=It's not safe for me to go.
6=I have too much homework to do.
7=My parents do not approve.
8=It costs too much.
9=I need to take care of brothers or sisters or do other things at home.
10=I am afraid I will not be good enough in that activity.
11=I'm too busy.
12=I don't know what is available.
13=None of my friends are interested or want to go.
14=Other, please describe _____

**Source:** Chapin Hall Center for Children, University of Chicago

Goerge, R. M., & Chaskin, R. J. (2004). *What ninth-grade students in Chicago public schools do in their out-of-school time: Preliminary results.* Chapin Hall Center for Children, University of Chicago.