Parent and Teacher Contributions to Adolescent Self-efficacy Development

by

Daphné Dokis
B.A., University of Guelph, 2000

A Thesis Submitted in Partial Fulfillment of the
Requirements for the Degree of

MASTER OF ARTS
in the Department of Psychology

Supervisor: Dr. Catherine L. Costigan

ABSTRACT

The current investigation provides a preliminary investigation of the "imposed networks" (adults with whom youth interact, but were not necessarily chosen) of youth aged 8 to 12. Also evaluated was the relative influence of parents and teachers on youths' feelings of self-efficacy. Youth reported on levels of warmth, psychological control and decision-making at home and at school. Self-efficacy was assessed by both youth and parent report. Results indicated that the emotional climate provided by parents was more influential on girls' feelings of self-efficacy than boys, and that higher warmth was negatively associated with boys' feelings of self-efficacy. Teacher psychological control was consistently negatively related to youths' feelings of self-efficacy. No evidence was found for either additive or interactive effects of home and school environments. Instead, the pattern of results suggested that youth benefit from moderate to high levels of parental warmth, when teachers provide levels of warmth that are either equally high or lower than parents.

Table of Contents

List of Tables

Table of Figures

Acknowledgements

I would like to acknowledge the many individuals who provided me with indispensable support and assistance throughout the completion of this project. First, I would like to thank my supervisor, Dr. Catherine Costigan for her invaluable support and guidance throughout this entire process. Thanks Cathy for the "gentle nudges" that I needed to help finish this thing once and for all! Thanks also to my committee members, Drs. Marion Ehrenberg, Bonnie Leadbeater, and Jillian Roberts for their patience and their thoughtful comments on this manuscript.

I am grateful to my family who remind me that I have chosen the right path, and who continue to support me on this journey. Thanks to my friends and fellow graduate students for providing me with a sympathetic ear and the caffeine necessary to complete this long process. Thanks especially to Lisa and David for reminding me when it was time to step away from the computer and take a break!

I wish to also thank the University of Victoria Jr. Vikes summer camp program and the Greater Victoria School District for their help in the participant recruitment process. Above all, I am indebted to the youth and parents who participated in this project. I am grateful to them for taking the time to share with me their thoughts and experiences; without them this research would not have been possible.

Introduction

The image of adolescence as a time of stress and storm is increasingly being seen as a misconception of this developmental stage. What was once seen as a time of confusion is now recognized as a time during which young people must learn to navigate a number of important developmental tasks. These tasks include adjusting to changes in physical maturation, as well as changes in cognition and social interactions (Holmbeck, Paikoff & Brooks-Gunn, 1995). As adolescents are dealing with the challenges of puberty, they are also becoming more sophisticated thinkers and problem solvers. These individual changes are linked to changes in their relationships with others, including peers and parents. Intraindividual changes, such as puberty and cognitive growth, are inevitable and will eventually occur regardless of the involvement of others. On the other hand, interindividual changes, such as increasing peer orientation and adolescent autonomy, depend in part on other key individuals, such as parents and teachers. Therefore, parents and teachers must be sensitive to the developmental needs of adolescents in order to aid them in successfully completing normative developmental tasks (Holmbeck et al., 1995). Failure to accommodate adolescents' changing needs and abilities may lead to less than optimal development. Parents and teachers who adjust or refine their ways of interacting with adolescents to foster positive development in several areas, such as for feelings of self-efficacy. Self-efficacy, the belief that one is a competent and capable individual, is a good predictor of other aspects of youth competence (Bandura, 1997; Bandura, Barbaranelli, Caprara, & Pastorelli, 1996). The goal of the present study is to better understand how parents and teachers independently

contribute to adolescent self-efficacy development, as well as to determine the relative importance of each of these groups of adults for self-efficacy development.

To examine these issues, several areas of relevant literature will be reviewed. First, literature examining the impact of parenting on adolescent development will be presented. Of particular interest is how different styles of parenting contribute to adolescent development, as well as how this relationship is mediated by the specific parenting behaviours parents employ. Second, literature examining contextual influences on parenting and adolescent development will be introduced. Ecologically-based research demonstrates that adolescent development does not occur in a social vacuum, but rather is influenced by the broader context in which the family functions. Adolescent development is guided not only by those individuals youth choose to include in their social networks, but also by those who are imposed upon them, such as teachers. Teachers have the potential to shape adolescent development, but the mechanism through which this influence operates is less well understood. Third, the relevance of the above literature will be examined with respect to one particular area of adolescent adjustment, self-efficacy development. Self-efficacy is a powerful predictor of many aspects of adolescent adjustment, such as social competence and academic achievement. Because of its important role in later adolescent development, it is critical to understand the factors that promote the development of self-efficacy. Finally, the contribution of parents and teachers to adolescent self-efficacy development is discussed. Two competing hypotheses are presented– one in which parents' and teachers' contributions to self-efficacy development are additive, and another in which one buffers the other.

Adult Influences on Adolescent Development

Parenting Styles and Adolescent Development

Perhaps one of the most widely researched aspects of parenting is that of parenting styles and child development (Steinberg, 2001). Research has repeatedly shown that parenting characterized by high levels of warmth and demandingness, and low levels of harsh control is associated with optimal developmental outcomes for adolescents (Baumrind, 1966; Kurdek & Fine, 1994; Lamborn, Mounts, Steinberg & Dornbusch, 1991; Steinberg, 1991). Parents who are warm and sensitive, and set appropriate limits, raise children who are happy and well-adjusted. An often-overlooked distinction in the parenting literature is that between parenting style and parenting behaviours. *Parenting style* creates the emotional context within which specific *parenting behaviours* operate (Darling & Steinberg, 1993). Parenting style is typically conceptualised in terms of parents' levels of warmth and control. The warmth dimension refers to the levels of acceptance, support, and warmth provided by the parent. The control dimension refers to the extent to which parents impose demands and set limits on their child's behaviour (Steinberg, 2001). There are multiple ways in which control can be displayed by parents, including behavioural and psychological. For the purposes of this investigation, psychological control will be emphasized because it may be more influential in the development of self-efficacy beliefs. Psychological control is thought to be a negative aspect of parenting style, and as such is associated with negative adolescent adjustment. Specifically, greater psychological control is associated with higher levels of internalizing symptoms in adolescence (Barber, Olsen, & Shagle, 1994). This emotional

context is important as it provides a framework for understanding how the more specific behaviours that parents employ may affect children.

Ecological Influences on Adolescent Development

Clearly, families do not exist in a vacuum, and parents are not the only adults who have an influence on adolescent development. Interactions with people and institutions outside of the family can impact parent-child interactions and individual development. Ecological models highlight the multiple influences on family processes and child development. According to Bronfenbrenner (1986), the interactions between the family and its environment can be examined in the context of five levels of influence: microsystems, mesosystems, exosystems, macrosystems, and chronosystems. At the most proximal level of influence are microsystems. The microsystem consists of the individuals that the adolescent interacts with directly, such as other family members, peers and other social network members. The adolescent's interactions with these groups of individuals constitute the microsystem level of influence. The next three levels operate outside of the family. The first of these external influences is the mesosystem, which refers to the interactions among microsystems. For instance, parents' interactions with schools can directly affect the developing adolescent. The quality or extent of communication between parents and teachers can influence the extent to which parents get involved in their children's schooling, which in turn may enhance children's academic achievement. At the exosystem level are the factors that indirectly influence the adolescent through their influence on the adolescent's parents. Parents interact with many people outside the household, such as neighbours and co-workers, and these interactions can affect the way parents behave toward their children. At the broadest

levels of influence are the macrosystem and chronosystem. The macrosystem refers to factors that indirectly impact family processes, such as laws and the broader cultural context. Clearly, individuals outside of the family play a key role in guiding adolescent development. The chronosystem refers to influences related to the effects of change, or developmental transitions, on the family. For instance, when a child reaches adolescence, the family needs to change to accommodate the young adolescent's new roles. Recent research on neighbourhoods and social networks demonstrates how such individuals may exert their influence on the adolescent.

Neighbourhood Effects

In the last two decades many studies have examined the effects of neighbourhoods on child and adolescent development (Burton & Jarrett, 2000). This research has shown that children growing up in unsafe neighbourhoods with high levels of poverty are at risk for negative developmental outcomes (Leventhal & Brooks-Gunn, 2000). For instance, children living in poor neighbourhoods have lower academic achievement than children reared in more affluent environments. Further, as adolescents they are more likely to drop out of school, be unemployed, and become pregnant. Attempts to understand the mechanisms by which neighbourhoods affect children's development have focused on several possibilities, such as neighbourhood socialization practices, community resource models, and parenting (Burton & Jarrett, 2000; Leventhal & Brooks-Gunn, 2000).

Warmth and control are two parenting dimensions that are influenced by the neighbourhood context (Burton & Jarrett, 2000; Leventhal & Brooks-Gunn, 2000). Generally the findings reveal that parents living in poorer and more dangerous

neighbourhoods are less warm than parents in more affluent and safe neighbourhoods. In addition, parents who live in dangerous neighbourhoods report using more harsh control and verbal aggression with their children than do parents in safer neighbourhoods (Earls, McGuire & Shay, 1994). Neighbourhood effects are also revealed through examinations of families relocated from their neighbourhood of origin. These types of manipulations provide unique opportunities to examine neighbourhood effects on parenting. For instance, in the Yonkers Project, a group of low-income families was moved to a middle-income neighbourhood. Parents who moved to the new neighbourhood used less harsh disciplinary practices than those who remained in the low-income housing (Briggs, 1997). Leventhal and Brooks-Gunn suggest that perhaps the move to a middle-income neighbourhood decreased the parents' level of stress and depression which led to less harsh parenting.

Parenting may buffer the negative influence of neighbourhoods on adolescent development. Specifically, some parents appear to modify their parenting behaviours in order to counteract neighbourhood effects (Burton & Jarrett, 2000). Parenting characterized by high levels of control and low levels of warmth is typically associated with less positive youth adjustment (Baumrind, 1966). However, research in the area of neighbourhood effects reveals that in some instances this type of parenting behaviour can be adaptive (Gonzales, Cauce, Friedman, & Mason, 1996; Leventhal & Brooks-Gunn, 2000). For example, Gonzales and colleagues found that the optimal level of parental control depends on the neighbourhood context. Specifically, low levels of parental control were most beneficial to children in low risk neighbourhoods, but moderate to high control was more beneficial to children in higher risk neighbourhoods. Parents who live

in high crime neighbourhoods may develop a more restrictive and punitive discipline style to protect their children from the influence of deviant peers (Brody et al., 2001; Garbarino & Kostelny, 1993). Parents in poorer neighbourhoods keep their children closer to home in order to more closely monitor their child's interactions with neighbourhood influences. In this way, parents mediate the effect of neighbourhoods on their children by decreasing their exposure to negative neighbourhood influences (Brody et al., 2001; Leventhal & Brooks-Gunn, 2000).

Social Support

Another feature of the social context that affects parenting is social support. Parenting is a role that brings with it considerable amounts of stress. In order to help manage these stresses, parents turn to their family and friends for advice, support and even material assistance. These helping exchanges are generally what is meant by the term social support. Social support affects the family when network members interact directly with children and influence their development, and when network members interact with parents, resulting in modifications of parenting beliefs and behaviours (Cochran & Niego, 1995). Social networks provide support for the argument that other non-familial adults can influence positive youth development.

Parental supporters influence youth development through both direct and indirect routes (Cochran & Brassard, 1979). In terms of direct influence, social network members can impact youth development in four ways. First, network members provide social and cognitive stimulation to the child. A social network member may introduce youth to experiences that their parents might not otherwise. For instance, a parent's friend may introduce youth to museums or other cultural opportunities that the parent might not.

Second, parents' social networks provide adults who can also serve as sources of support for the child. The third and fourth modes of influence are related in that social network members provide youth with opportunities to observe their parents interacting socially, as well as to practice their own social skills. Youth who are provided with such opportunities have the chance to practice interacting with others, as well as observe different styles of interactions. Marshall, Noonan, McCartney, Marx and Keefe (2001) suggest that youth exposed to such opportunities may develop greater social competence.

Parents' social networks also influence youth development through indirect processes (Cochran & Brassard, 1979). First, social network members provide emotional and material support to parents. Ample evidence exists demonstrating the beneficial effects of such support for parents (Cochran & Niego, 1995; Crockenberg, 1987; Simons & Johnson, 1996). Further, parents who receive such support are likely to feel more competent, and in fact *be* more competent parents (Cochran & Niego, 1995; Marshall et al., 2001). Second, social network members act as role models for parents, demonstrating appropriate parenting practices (Marshall et al., 2001). Finally, although parents may not adopt every practice they observe in their networks, network members may provide sanctions for any unacceptable practices parents may utilize. Network members who observe parents acting in a way they perceive to be inappropriate may pressure the parents to change their behaviour or provide advice and guidance for more appropriate alternate behaviours. These indirect influences all operate through a common mechanism – they seek to modify the parenting behaviours that directly influence youth development. Whatever the mode of influence, social support for parents clearly has a positive impact on youth. Parents with more support have been found to display more

positive parenting characteristics, which in turn are associated with more positive developmental outcomes, including fewer behaviour problems and greater social competence (Marshall et al., 2001).

Imposed Networks

What is missing from the research in this area is an understanding of the influences that fall "in between" the more proximal influence of social support networks and the more distal influence of neighbourhoods. That is, social support networks, by virtue of being chosen by parents, are more likely to have a direct impact on families than people or institutions with which families have no direct contact. On the other hand, the elements of one's neighbourhood are not always chosen, but affect families by shaping the context in which parenting occurs. In between these two influences fall the people with whom children and parents interact, but who were not necessarily chosen by them. We refer to these people as "imposed networks". Parents of a child's peers, the classroom teacher, and sports coaches are all examples of imposed network members. Imposed networks bridge the gap between the more direct, solicited interactions with social support networks, and the more indirect environmental context created by neighbourhoods.

Interactions with imposed network members have the potential to influence adolescent adjustment in a manner that parallels parenting. Thus, imposed networks provide an opportunity to investigate how people outside of the family influence the developmental trajectories of adolescents. The social support and neighbourhood effects literature indicates that adults outside of the home influence adolescents. However, imposed networks differ from each of these in important ways that have yet to be

addressed in the literature. For instance, imposed networks differ from social networks in that the individuals in question are not, for the most part, sought out by parents. Parents seek out individuals who share similar beliefs and values to form their social networks (Cochran, 1990). Therefore, it is likely that social network members will interact with adolescents in a way that is similar to the youth's parents. Imposed network members are unique in that they are not chosen, and so may not necessarily share the beliefs, values, or expectations of the adolescent's parents. Neighbourhoods differ from imposed networks in that they may not directly influence adolescents. Instead, neighbourhoods have a more indirect route of influence, through their impact on parenting. One goal of this project is to evaluate *who* the relevant imposed network members are in adolescents' lives, what the *nature* of their interactions is, and what *influence* these interactions have on adolescents.

Teachers as an Imposed Network Influence

Schools provide a unique opportunity to examine the effects of imposed networks. The experiences students have at school can have long-term consequences for their emotional development. In fact, recent work indicates that adolescents' perceptions of their school environment can impact their later emotional development (Roeser, Eccles & Sameroff, 2000). Students who feel competent, value their educational experience, and have higher grades are at decreased risk for later emotional distress.

Teachers can be thought of as one type of imposed network member. Parents may choose the school their child attends, but they will likely not have a say in their child's specific teacher. Instructors are assigned to classrooms, and so they are *imposed* on the students in those classes. Over the school year, teachers and students develop

working relationships that may have a powerful influence on their development. Wentzel (2002) provides preliminary evidence that teachers influence youth development in a manner similar to parents. In her investigation, Wentzel evaluated the relevance of parent socialization models to understanding student-teacher relations among 6th grade students. Specifically, Wentzel hypothesized that teachers provide levels of support and control in the classroom in a parallel fashion to that provided by parents at home. The teaching dimensions proposed included perceived fairness in the classroom, rule setting, negative feedback and high expectations on the part of the teacher. The results suggested that negative feedback from teachers had a moderate, but negative, impact on the development of youth. Youth who perceived more negative feedback from their teachers were found to display less prosocial and more irresponsible behaviour in the classroom. Thus, it is clear that teachers, although imposed on youth, have a significant impact on adolescent development.

Adolescent Self-Efficacy

The bulk of the literature examining the construct of self-efficacy has focused on its correlates and consequences. For instance, youth high in self-efficacy are more likely to have high academic achievement, be socially competent, have decreased life stress, and be more autonomous (Meece, Wigfield, & Eccles, 1990; Scales, Benson, Leffert, & Blyth, 2000). Fostering a positive sense of self-efficacy in adolescence is likely to have a spillover effect in many areas of adolescents' lives, and contribute to an overall sense of competence. For instance, adolescents who feel more competent socially may feel more comfortable speaking up in class and therefore increase their academic performance. Thus, competence in one area is associated with increased competence in others. A great

deal of evidence exists showing linkages between adolescent self-efficacy and positive development, including academic achievement (Bandura et al., 1996; Meece et al., 1990) and decreased substance use (Chung & Elias, 1996). However, relatively less is known about the risk and protective factors that may undermine or promote self-efficacy development.

Development of Self-efficacy Beliefs

There is some speculation about the sources of self-efficacy beliefs, but little empirical literature exists examining the how such beliefs change over time (Berry & West, 1993). At a global level, developing the belief that one is capable of performing a given action in a particular situation proceeds through three stages, and begins in infancy. Infants must first learn that there are causal relations between events, and then they must understand that specific actions cause events to occur. Finally, children come to recognize themselves as being causal agents. Once children recognize that they can make things happen, they begin to have a sense that they are more or less capable of performing certain actions.

Bandura (1997) suggests that four types of experiences may influence beliefs about competence: mastery experiences, modelling, social persuasion, and physiological states. The first source of efficacy beliefs is the acquisition of mastery experiences. Bandura believes that experience of success in a task is one of the strongest influences on the development of self-efficacy. Mastering one's environment leads individuals to feel that they can successfully accomplish more diverse and difficult types of tasks. Direct experience with success is a potent influence on future expectations of performance. Self-efficacy can be easily undermined when individuals have repeated experiences with

failure. Students who believe that they should be able to do well in math, but often perform poorly on exams may begin to doubt that they are capable of doing well in this area.

Second, self-efficacy can be developed through modelling by other individuals who have high efficacy. Seeing others similar to themselves successfully accomplish tasks leads individuals to believe that they too could perform similarly to the models. The key to this type of experience is the degree of perceived similarity between the model and the individual in question. Bandura (1993; 1997) suggests that because this source of efficacy beliefs operates under such specific conditions, it is not as powerful an influence on self-efficacy development as mastery experiences. Further, there is a potential downside to this mode of influence because seeing a model fail can lead to lowered self-efficacy.

Third, individuals learn to feel competent through praise and reinforcement received from others. Social persuasion contributes to self-efficacy by leading individuals to expend greater effort to complete difficult tasks that they might otherwise quit. However, this mode of influence may be more powerful in its ability to undermine self-efficacy beliefs than its ability to foster them (Bandura, 1997). That is, individuals are more likely to shy away from a task they have been persuaded they cannot do, as opposed to approach a task that they have been persuaded that they *can* do.

Finally, individuals develop self-efficacy partly through attunement to their own physiological and emotional states. Individuals tend to attribute their physical and emotional reactions in emotionally distressing situations to a lack of ability rather than a more reasonable explanation. For instance, students may attribute heart racing and palm

sweating in an exam situation to lack of preparation for the exam rather than nervousness. Experiences such as these are more likely to undermine an individuals' sense of self-efficacy, and like social persuasion, are less likely to contribute to its development (Bandura, 1997). Of these four sources of beliefs, mastery experiences are the most influential in developing feelings of self-efficacy.

The Influence of Gender and Age on Self-efficacy Development

There is mixed evidence in the literature regarding possible gender differences in self-efficacy development. Some studies report that adolescent girls have higher self-efficacy than boys before the transition to middle school (Anderman & Midgley, 1997), while others find no such difference (Roeser, Eccles, & Sameroff, 2000). Similarly, it is unclear how self-efficacy beliefs change over time. Some evidence indicates that feelings of self-efficacy increase from early to late adolescence (Berry & West, 1993; Hoeltje, Subrick, Silburn & Garton, 1996; Zimmerman & Martinez-Pons, 1990), while others report drops in self-efficacy related to school transitions (Roeser, Eccles, & Sameroff, 2000). Therefore, research is needed in order to clarify both the developmental trajectory of self-efficacy beliefs, as well as the ways in which boys and girls may differ in their development of feelings of self-efficacy. To date, few longitudinal studies exist that evaluate the developmental changes in self-efficacy beliefs. Preliminary evidence from Juang and Vondracek (2001) suggests that the gender differences in self-efficacy may decrease over time. Specifically, they followed 6th grade students over three years, and found that girls' initial levels academic competence beliefs were higher than boys', but that they decreased over the 3-year measurement period. On the other hand, boys' academic competence beliefs increased over time, thereby closing the gender gap.

Parenting and Self-Efficacy Development

Parents are potentially a major source of influence on the early development of self-efficacy beliefs, although their specific role in this process has not yet been clearly defined (Hoeltje et al., 1996). The available literature suggests that the style of interaction that parents adopt can either promote or undermine their adolescents' self-efficacy beliefs. Parenting characterized by higher levels of warmth and lower levels of control has been associated with higher levels of efficacy beliefs in adolescents (Erford, 1995; Hoeltje et al., 1996; Oliver & Paull, 1995; Whitbeck et al., 1997). For instance, Hoeltje and colleagues (1995) examined the relationship between generalized self-efficacy beliefs and family functioning in their sample of 12 to 16 year olds. Adolescents completed self-report measures of generalized efficacy beliefs, and reported on the level of nurturant and restrictive parenting they received. Results showed that adolescents' reports of inconsistent and rejection-oriented parenting significantly predicted lower levels of self-efficacy. Similarly, nurturant parenting was a significant predictor of higher levels of adolescent self-efficacy.

Whitbeck and colleagues (1997) examined familial antecedents of self-efficacy beliefs in a sample of seventh grade students. Both adolescents and parents reported on the levels of harsh parenting the adolescent received, as well as on the level of inductive reasoning parents used when making decisions that affected the adolescent. Adolescents whose parents reported using more inductive reasoning and who avoided harsh parenting reported higher levels of generalized self-efficacy than those whose parents did not employ such parenting strategies. This effect was not large in that parenting style only

accounted for a moderate (13% for fathers, 17% for mothers) portion of the variance in adolescent self-efficacy.

Research by Oliver and Paull (1995) suggests that youth who perceive their parents as providing a high level of warmth, and a low level of control reported both higher levels of self-efficacy and self-esteem, as well as lower levels of depression. Using a canonical correlation analysis, the authors were interested in determining whether perceptions of parenting style and home environment were significantly related to both personality traits (i.e. self-esteem and self-efficacy) and depression. In their sample of undergraduates, parenting style and home environment shared 13% common variance with youth-reported self-esteem, self-efficacy and depression. Although these results provide some preliminary evidence for the influence of parenting in self-efficacy development, they are not conclusive. That is, further analyses revealed that the association between these three variables was largely accounted for by the youth's internal characteristics. Specifically, the relations between these variables were lessened when youths' self-reported levels of introversion were partialled out. Further, when depression was removed as a "dependent variable" in the analysis and used instead as a control variable, the relationship between parenting and self-efficacy was further reduced. In fact, after partialling out youths' levels of introversion and depression, only the relationship between perceived parenting and self-esteem remained significant. Furthermore, canonical correlation can only provide information regarding the structure of the relationship between two sets of variables, but no interpretations can be made as to the direction of causation. That is, it is impossible to tell if the parenting variables lead to

greater self-esteem, self-efficacy and lowered depression, or if this combination of esteem, efficacy and depression alters youths' perceptions of the parenting they receive.

Results such as these support the notion that parenting style may play a role in the development of adolescent self-efficacy. However, not all research in this area indicates a clear relationship between parenting context and self-efficacy development. For example, the relationship between parenting and self-efficacy may not be the same for both parents. In a sample of young adults, Erford (1995) found that the relationship held for fathers, but not for mothers. Specifically, students who perceived their fathers as controlling reported lower levels of problem-solving self-efficacy than those who perceived them as autonomy-enhancing. However, there was no significant association between perceived parenting received from mothers and reports of problem solving self-efficacy. Others have found the opposite relationship between parenting and self-efficacy in which nurturant parenting was associated with lowered self-efficacy (Juang & Vondracek, 2001). Using person-oriented cluster analyses, Juang and Vondracek (2001) found four distinct patterns of efficacy beliefs; youth increased, decreased, or were consistently high or low over the 3-year measurement period. Surprisingly, adolescents whose mothers were higher in warmth displayed decreasing academic efficacy beliefs over the 3-year study. However, the effect of mothers' warmth was small, and the authors suggested that the decreased feelings of academic competence were more strongly influenced by parents' involvement in their child's school.

This mix of findings suggests that the research has yet to fully explore the relationship between parenting and self-efficacy development. Limitations of research in this area include a lack of research with young adolescents, as well as the exclusive focus

on global parenting styles. Further research is needed to determine the specific mechanisms through which these parenting styles operate. It may be that global parenting styles operate through the specific behaviours used by parents to influence youth self-efficacy. That is, *parenting behaviours* might mediate the relationship between parenting styles and self-efficacy development. Nurturant parents may engage in behaviours that encourage the development of self-efficacy, and restrictive parents may employ strategies that undermine self-efficacy development. Bandura's theory of self-efficacy development suggests that one of the most influential sources of self-efficacy beliefs is the experience of mastery (Bandura, 1997). Accordingly, parents who provide their adolescents with opportunities to successfully master their environments are likely to have children with higher levels of efficacy beliefs.

Decision-making mastery experiences in the home. An important task in adolescence is the negotiation of autonomy with parents. One way parents can provide their children mastery experiences is through shifts in decision-making power (Dornbusch et al., 1985). Parents gradually relinquish control over various aspects of their children's lives, and allow them to make more of the decisions that affect them directly. For instance, throughout adolescence, youth gain more control in choosing what activities they participate in, how they should dress, and with whom they will associate (Holmbeck, Paikoff, & Brooks-Gunn, 1995). When parents increasingly grant their adolescents the power to make their own decisions, they are providing their children with one type of mastery experience needed for successful self-efficacy development. The experience of agency, or the ability to exercise some control over their environment, is a crucial step in the development of competence beliefs (Bandura, 1997). For adolescents

to feel efficacious, they must first feel that they have some say in what happens to them. Nurturant parents may encourage their adolescent's budding autonomy by supporting their child's greater involvement in decision-making. Restrictive parents may be more reluctant to relinquish control over decision-making powers, and in doing so, they may undermine their adolescent's developing self-efficacy beliefs. Research by Steinberg and colleagues (1992) lends support to this hypothesis. In their sample of ninth to eleventh grade students, the authors found that the relationship between parenting styles and academic self-efficacy was mediated through the specific behaviors the parents employed. Specifically, those parents who were 'authoritative' – high in warmth, strictness/supervision, and psychological autonomy – were more likely to be involved in their child's education, and these adolescents scored higher on measures of academic self-efficacy. It is reasonable to expect that a similar relationship could be found for the granting of decision-making and more generalized self-efficacy beliefs. Parents who are more nurturant and less restrictive may allow for the most adolescent decision-making, which in turn may lead to greater adolescent self-efficacy.

Still, parents must also set appropriate limits to decision-making to prevent their child from being overwhelmed by too many responsibilities at one time, or at too young an age. Adolescents who become overwhelmed by the responsibility of decision-making may fail in this developmental task. Prominent in self-efficacy theory is the power of failure to undermine competence beliefs (Bandura, 1997). Therefore, adolescents who are granted more decision-making opportunities than they can handle might have lower levels of self-efficacy than those whose parents limit their decision-making powers. The ideal environment for self-efficacy development may be when parents allow their

children enough opportunities to experience the world, yet set the limits needed to prevent them from being overwhelmed by too many opportunities. Parents adopting this style of interaction are likely to involve their adolescents in joint decision-making rather than unilaterally deciding on issues, or allowing their adolescent complete control. Conversely, parenting characterized by lower levels of warmth and higher levels of psychological control may be detrimental to adolescents because these parents do not allow their child the freedom to gain the mastery experiences they desire. Parents adopting this style of interaction may allow fewer opportunities for joint or adolescent-led decision-making and instead have ultimate control over the majority of decisions in the family.

Teachers and Self-Efficacy Development

Once children enter school, they spend a large proportion of their time with their teachers. Self-efficacy development is an ongoing process, and as such is not complete when children enter school. Therefore, teachers may play a significant role in promoting self-efficacy development in children and adolescents. In fact, there are changes in levels of self-efficacy that are associated with changes in the school context. A recent longitudinal investigation by Eccles and colleagues (Roeser, Eccles, & Sameroff, 2000) provides evidence confirming the influence of teachers on adolescents' academic achievement and emotional adjustment. Seventh grade students reported on their academic competence and achievement, the extent to which they perceived their teachers as supportive, as well as several other constructs relevant to the larger study (e.g., their perceptions of opportunities for autonomy in the classroom, the extent to which they value school, etc.). At the one-year follow up, students again reported on these same

variables. Using both variable-centred and person-oriented analyses, the authors found several interesting relationships that suggest that teachers provide an emotional context for learning in the same way that parents provide an emotional context for development at home.

Specifically, variable-centred analyses indicated that teachers, like parents, displayed varying levels of warmth in the classroom. This emotional context appeared to have a significant impact on both adolescents' academic and emotional development. As early adolescents made the transition from elementary to middle school, there was a decrease in perceptions of teacher support, as well as an associated decrease in academic competence and perceived value of classroom activities (Midgley, Eccles & Feldlaufer, 1991). Students who perceived their teachers as both supportive and providing structure were found to more highly value their academic work, and had higher levels of self-efficacy (Eccles, Wigfield, Midgley, et al., 1993; Roeser, Eccles & Sameroff, 2000). Roeser and colleagues (1999) found that for the eighth grade students, perceptions of teacher warmth were a significant, positive predictor of academic self-concept. However, in this study students' perceptions of teacher warmth were based on a single item ("When you have a personal or social problem in school, how often can you depend on your teachers to help you out?"), and students were not asked anything about the extent to which they felt that their teachers were restrictive. Further, these results are limited in that the authors only measured academic competence. It is difficult to know whether such results would also be applicable to self-efficacy beliefs in other domains. Despite these methodological shortcomings, this evidence provides preliminary evidence regarding the importance of teacher warmth in self-efficacy development.

Person-oriented cluster analyses further revealed that not all students experienced declines in academic competence from seventh to eighth grade (Roeser, Eccles, & Freedman-Doan, 1999; Roeser, Eccles, & Sameroff, 2000). Results from cluster analyses revealed that adolescents could be grouped into four clusters based on their academic achievement and emotional adjustment: well-adjusted, low motivation, poor mental health, and multiple problems. The well-adjusted group displayed high academic achievement, motivation, school value, and competence, as well as positive mental health. The poor motivation group was characterized by low school motivation and value, but had high academic achievement, competence, and positive mental health. Students in the poor mental health group had high academic achievement, motivation, value and competence, but reported negative mental health. Finally, the multiple problems group was characterized by poor academic achievement and competence, low academic motivation and value, and negative mental health. Adolescents in both the low motivation and multiple problems group experienced declines in academic competence over the one-year measurement period (Roeser, Eccles, & Freedman-Doan, 1999). The multiple problems group reported the least emotional support from teachers, and the lowest levels of academic competence (Roeser, Sameroff & Eccles, 2000). Similarly, the low motivation group was more likely to report less emotional support from teachers than the well-adjusted or poor mental health groups. Overall, it appears that the perceptions of teachers as nurturant may promote self-efficacy development, while its absence could undermine feelings of competence. The context provided for learning may play an important a role in adolescent self-efficacy development. However, as with parenting,

the specific mechanism through which this relationship operates is not well understood (Wigfield & Eccles, 1994).

Decision-making mastery experiences in the classroom. The provision of mastery experiences seems to have a significant effect on academic competence beliefs. Work by Anderman and Midgley (1997) suggests that the decrease in perceptions of academic competence across the transition to middle school is related to decreases in perceived opportunities for mastery in the classroom. In their 1-year longitudinal study of 5th grade students, the authors found that adolescent-reported levels of academic competence declined across the transition to middle school. Further, it was noted that these declines in perceived competence were related to changes in the classroom environment. Specifically, middle school teachers were perceived to emphasize successful completion of tasks over the efforts put into completing tasks. Students in fifth grade reported that they wanted to learn in an environment that emphasized task mastery, where they could be given an opportunity to correct their mistakes and master a task; as opposed to one in which there was a greater focus on the relative ability of students and obtaining the right answers. After the transition to middle school, the students perceived their teachers as emphasizing the relative performance of students over attempts to achieve task mastery. This mismatch between the students' orientation to learn, and the teaching styles they experienced were related to lower academic self-efficacy in math and English. However, it is important to note that this is a *perceived* mismatch between desired and actual teaching practices, as both of these were measured by adolescent report only. It appears that in addition to the context teachers provide for learning, the specific experiences

teachers introduce to students in their classrooms may also play an important role in adolescent self-efficacy development.

Teachers who provide their students with a degree of decision-making contribute to the self-efficacy development of their students (Midgley et al, 1991; Roeser, Eccles, & Sameroff, 2000; Wigfield & Eccles, 1994). For instance, students who feel they have a say in deciding where they sit, what activities they will do next, and what types of learning experiences they will engage in, hold stronger beliefs regarding their academic competence (Roeser & Eccles, 1998). Experiencing success in mastery experiences in the classroom contributes to feelings of academic competence, which in turn promotes greater academic achievement (Roeser, Eccles & Sameroff, 2000).

Combined Influence Of Parents And Teachers On Adolescent Development

Imposed network members are unique in that they are both unsolicited *and* have a direct impact on adolescent development. As parents and adolescents negotiate greater autonomy, adolescents will increasingly make more decisions regarding their daily activities outside the home. The social networks of adolescents become increasingly diverse, and may include adults that the youth's parents did not choose. Consequently, adolescents will come into increasing contact with other adults who will have an influence on their development. These adults have their own styles of interacting with the adolescent, which may or may not be similar the style of the adolescent's parents. In order to develop a clearer picture of the multiple influences on adolescent adjustment, we need to examine more closely the relative impact of these imposed relationships.

A first possibility is that other adults may contribute to self-efficacy development over and above the contributions made by the adolescent's parents. For example, if both

parents and teachers adopt a style of interaction characterized by higher levels of warmth and lower levels of psychological control, there could be a cumulative effect on adolescent adjustment. The behaviours used by each set of adults complement each other, and the effects on adolescent adjustment may be additive. In terms of self-efficacy development, both parents and teachers together could provide the mastery experiences needed to develop competence beliefs thereby increasing adolescents' feelings of competence. Adolescents who are afforded decision-making opportunities both at home and at school have the potential to develop a stronger sense of self-efficacy than adolescents who may only receive such opportunities in a single context. Similarly, if both parents and teachers adopt a style of interaction characterized by low levels warmth and high psychological control, the additive effects of this less than optimal interaction style could further compromise self-efficacy development.

A second possibility is that when interactions with parents and teachers provide different emotional contexts, the more positive context may buffer or compensate for risks in the other context. For example, adolescents with parents who provide higher levels warmth and lower levels of psychological control may buffer them against any possible negative effects of interacting with teachers who are less nurturant and more controlling. In terms of self-efficacy, adolescents whose parents provide them with the building blocks they need to develop feelings of competence may not be negatively affected by experiences outside the home that have the potential to undermine this process. For example, the lack of decision-making opportunities in the classroom may not adversely affect self-efficacy development if such opportunities are available in the home. Likewise, adolescents whose own parents do not provide a climate of high

warmth and low control might benefit from interacting with other adults who do. That is, interacting with teachers might help compensate for less adequate parenting in the adolescent's home. In this instance, interacting with another trusted adult who provides support and encouragement might help adolescents develop feelings of competence, despite the negativity they may experience at home.

It is uncertain at this point which of these two possibilities is more likely. However, a small body of literature exists which lends more weight to the additive hypothesis. In his review of adolescence research in the 1990s, Furstenberg (2000) suggests that based on the neighbourhood effects literature, the effects of multiple contexts on adolescent development are modest and additive. He argues that adolescent development is not dominated by any one setting in which adolescents find themselves, but rather it is the combination of influences that makes the difference. Fletcher et al. (1995) also provide preliminary evidence suggesting additive effects. The authors hypothesized that adolescents with authoritative parents would benefit from interactions with friends whose parents are also authoritative. Their results indicated that the association with authoritatively reared peers contributes to adolescents' positive development, over and above the benefits provided by their own parents. Specifically, adolescents with peers from authoritatively reared homes had better academic achievement, higher academic competence beliefs, and reported lower levels of delinquency than those whose peers had more restrictive families. The authors also evaluated whether interactions with authoritatively reared peers would amplify the effects of authoritative parenting, or if it could compensate for a lack of the same. The additive hypothesis was supported, in that adolescents appeared to benefit from interacting with

other authoritative parents. However, there was no evidence for a compensatory effect in that youth from non-authoritative homes did not benefit from interacting with the authoritative parents of their peers.

Recent work in the area of stepfamilies also suggests that supportive relationships with multiple adults have additive effects on adjustment. White and Gilbreth (2001) examined the relative influence of stepfathers and noncustodial fathers on adolescent adjustment. Results suggest that having good affective relationships with both fathers and stepfathers has a cumulative effect. The authors report that a compensatory model is not supported because there did not appear to be a trade-off in the effects of the relationships with the two fathers. There was no association between the quality of relationships with stepfathers and noncustodial fathers; adolescents' reports of positive stepfather relationships were not dependent on a negative relationship with their own father. However, the authors did not directly investigate a possible interactive effect for father-stepfather relationships. White and Gilbreth base their conclusion on the fact that being happy with a stepfather or noncustodial father relationship is not dependent on the absence of the other. What they failed to consider is the adolescents' satisfaction with one father at differing levels of satisfaction in the relationship with the other. It may be that adolescents who have high quality relationships with both fathers experience the best outcomes, but we do not know what happens when there is a high quality relationship with one and not the other.

A more recent investigation by Brody and colleagues (2002) examining the contributions of parenting and classroom processes in youth adjustment suggests that both additive and interactive processes may be at work in different contexts. In their

sample of 7 to 15 year old African American youth, they found that parenting and classroom processes each contributed uniquely to the youths' ability to regulate their own behaviour, and subsequently led to less internalising and externalising behaviours. Aspects of parenting that contributed to youth adjustment included high levels of involvement, support and monitoring. Classroom environments that were highly organized, established clear rules, and allowed greater student involvement also contributed to youths' positive development. However, Brody et al. (2002) also found evidence that a positive classroom climate may provide a protective-stabilizing function when the home climate is less than ideal, and vice versa. Specifically, MANOVA analyses revealed that lower levels of internalising and externalising symptoms were reported by youth who experienced at least one positive environment, whether it was at home or at school. The highest levels of internalising and externalising were found among youth who were not exposed to a competence-promoting setting at home or at school. Overall, the evidence regarding additive and interactive effects of parents and other adults is mixed. Therefore, it is difficult to speculate which hypothesis will be supported.

Purpose and Goals of Study

Both teacher and parental determinants of self-efficacy development have been examined alone, but the joint contribution of these factors has not been evaluated. The purpose of this study is to examine the relative contribution of parents and teachers to the development of generalized self-efficacy beliefs. This study will attempt to address this gap in the literature, by addressing the following issues:

1. The first goal of this research is to qualitatively explore the construct of imposed networks by examining the extensiveness and nature of adolescents' imposed networks. Issues such as the extent of their contact with imposed network members, and what they do when they are together are assessed.
2. The second goal of this investigation is to evaluate the role of parents in the development of feelings of self-efficacy. It is hypothesized that both parenting style and parenting behaviours will contribute to the development of feelings of self-efficacy. It is expected that parenting that is more nurturant and less psychologically controlling will be associated with greater adolescent self-efficacy. Further, the more nurturant and less psychologically controlling parents are, the more they will allow adolescents opportunities for decision-making. Less exclusive parent decision-making is expected to be associated with higher levels of adolescent self-efficacy.
3. The third goal is to evaluate the role of teachers in facilitating self-efficacy development. As with parents, it is hypothesized that both the emotional climate provided by teachers, as well as the extent to which they allow autonomy in the classroom will facilitate the development of adolescent self-efficacy. Teaching that is more nurturant and less psychologically controlling will be associated with greater student self-efficacy. The more nurturant and less psychologically controlling teachers are, the more they will allow youth decision-making in the classroom. Greater youth decision-making in the classroom will be associated with higher levels of adolescent self-efficacy.

4. The fourth goal is to evaluate the joint contributions of parents and teachers in adolescent self-efficacy development. Two competing hypotheses will be examined. First, greater feelings of self-efficacy will be evident when both parents and their teachers display higher levels of warmth, lower levels of psychological control, lower levels of parent-led decision-making, and greater opportunities for youth decision-making in the classroom. A second possibility is that either parents or teachers may play a buffering role with respect to the other. That is, adolescents who perceive their parents to display inadequate levels of warmth and control, as well as an excess amount of parent-led decision making, may have a teacher who provides them with a supportive context for developing self-efficacy. A supportive teacher may also allow for specific mastery experiences, such as opportunities for decision-making, that they may not be permitted at home. In these cases, the adolescent is expected to report adequate levels of self-efficacy. The reverse relationship is also possible, where the levels of warmth, control and decision-making provided by parents may shield children from any possible negative consequences of interacting with a teacher who may not provide the most desirable environment.

Method

Participants and Procedure

Participant Recruitment. A total of 62 adolescents and their parents were recruited from three locations. Twenty-eight youth were initially recruited from a University-based summer camp program. There was a total of 110 youth enrolled in the summer camp program, reflecting a response rate of 25.5%. Given the low number of

participants obtained from this recruitment site, another method of recruitment was needed. Therefore, the remainder of the participants ($N = 34$) were recruited from two schools in the Greater Victoria School District. For School A, 22 youth from two grade 4/5 classrooms participated, in which there were a total of 53 students. For School B, 12 participants were recruited from two classrooms (Grade 4 and Grade 5) in which there were a total of 95 students. This reflects response rates of 41.5% and 12.6% for Schools A and B respectively.

Procedure. A letter outlining the purpose and goals of the study was sent to parents in order to obtain consent for the participation of their child in the study. Parents and youth were told the purpose of the study was to learn about the ways in which both parents and teachers contributed to youths' feelings of competence. Youth also provided informed consent to participate.

For summer camp youth, a recruitment letter was sent home with each child at the beginning of the camp session. Parents provided consent for their child to participate and were asked to complete a short demographics questionnaire, as well as to report on their youth's level of self-efficacy. Youth returned completed questionnaires and consent forms to their camp leaders on the 4th day of the camp week (Thursday). The researcher administered the questionnaires to youth on the final day of camp, during the lunch break. The researcher explained the purpose of the study to youth and read the informed consent form out loud. After providing consent, youth completed the questionnaires on their own, with the researcher available to answer questions as needed. Questionnaires took between 30 and 50 minutes to complete.

Students from Victoria schools were recruited via a recruitment letter and questionnaire package sent home. In School A, youth were provided with the recruitment letter and a consent form to be signed by their parents. Youth returned the consent forms to their teachers and were then provided with the questionnaire package, containing parent questionnaires, youth consent and youth questionnaires. Youth from School A completed these measures at home and returned them to the teacher in a sealed envelope once completed. In School B, the entire questionnaire package (e.g., parent and youth consent, parent and youth questionnaires) was distributed to students in class. Youth brought the entire package home, and returned them to the teacher once completed. Participants from both schools were given two weeks to complete the questionnaires.

Ethical standards were maintained throughout the investigation in several ways. First, the participation of youth was completely voluntary. Any youth could choose to withdraw from the study, without penalty, at any time during the completion of the questionnaires. Questionnaires were anonymous in that they were identified with a code number only, and contained no identifying information. In addition, results will be presented in group form only, so that no one individual's responses may be identified. The confidentiality of the data was maintained by storing the completed questionnaire booklets in a locked filing cabinet. The raw data (i.e., questionnaires) will continue to be stored for a period of 5 years, after which time they will be destroyed.

Final sample. A preliminary investigation of the range of youths' grades and ages resulted in several youth being excluded from the analyses. Nine youth (Mean age= 8.11 years) reported having recently completed Grades 2 and 3. Given that the goal of this study was to investigate self-efficacy development in youth who are beginning to

negotiate a transition to adolescence, these youth were removed from the analyses. The final sample consisted of 52 youth and 46 parents.

Youth were on average 10.5 years old (SD = 1.1) and ranged in age from 8 to 12 years of age. Nearly equal numbers of boys (53.8%) and girls (46.2%) participated. The majority of youth were of European Canadian descent (80.8%). The remaining youth were from Asian (1.9%), First Nations (1.9%) and East Indian (1.9%) backgrounds. Ethnicity information was not available for 7 youth (13.5%). Most youth lived in two-parent families (73%), with a smaller percentage living with only one parent (mother alone 9.6%; father alone 5.8%). One youth reported living with both parents and extended family, and another was currently living with a grandparent.

Parents ranged in age from 30 to 54 years (Mean age = 41.8, SD = 5.3). The majority of parent reports were obtained from mothers (76.1%), and a smaller proportion was obtained from fathers (21.7%). In one instance, the participating youth's grandmother provided the necessary information. In terms of education, most parents had started or completed postsecondary education (68.9% college or university, 17.8% graduate degree). The rest of the parents had varied educational backgrounds, ranging from elementary (2.2%) or high school only (8.9%), to trade school (2.2%). The majority of parents (80.4%) were currently working outside of the home between 5 and 50 hours per week (M = 34.1, SD = 10.7).

Measures

Youth completed a questionnaire package evaluating their perceptions of parent and teacher support and control, opportunities for decision-making in the home and at school, as well as their feelings of self-efficacy. Several other authors have supported the

use of adolescents' reports of parenting styles and behaviours (K. Conger, R. Conger & Scaramella, 1997; Gray & Steinberg, 1999; Steinberg et al., 1992). For instance, Barber (1997) suggests that since judgments of parental treatment are subjective, adolescents' reports may be the most valid method of assessing parenting dimensions. Adolescents' *perceptions* of parenting may be more informative than the *parents'* reports of their actual behaviour. The perception of received parenting may have a stronger influence on subsequent development than the actual behaviours parents employ.

Imposed Networks (IN)

Youth were asked a series of open-ended questions in order to evaluate their IN relationships (see Appendix E). These items were constructed to assess a variety of issues, such as who their IN members are, what they do during these interactions, the extent of contact they have with these members, as well as the value (positive or negative) of the IN members to the adolescent.

Parenting and Teaching Style

Based on the review of the literature, two aspects of parenting style stand out as being most relevant to self-efficacy development – parental warmth and psychological control. A copy of all measures can be found in the appendices.

Warmth in the home environment. Parental warmth was evaluated using two subscales (Involvement and Positive Parenting) of the Alabama Parenting Questionnaire (APQ; Shelton, Frick & Wooton, 1996). Adolescents reported on how much their parents engaged in several behaviours reflecting involvement (10 items; e.g., "How often do your parents have a friendly talk with you?") and positive parenting (6 items; e.g., "How often do your parents let you know when you are doing a good job with something?"). Items

were rated on a scale from 1 (never) to 5 (always). The remaining four subscales of the APQ assessed parental discipline practices and monitoring/supervision, but were not used because these scales did not contain the necessary items reflecting the psychological control dimension. Further, adolescents' reports on the discipline and monitoring/supervision scales are not as reliable as reports on the involvement and positive parenting subscales (Shelton et al., 1996). Therefore, it was decided that only the two highly related scales reflecting the dimension of parental warmth would be used.

Using a multi-trait multi-method (MTMM) design, Shelton and colleagues were able to concurrently evaluate both the reliability and validity of the APQ. Both parents and children were given the APQ global report form, a paper and pencil version of the questionnaire. The APQ was readministered to both parents and children via telephone interviews over a period of 2 to 4 weeks. For all subscales except Positive Parenting, youth were asked to report for each parent separately. For Positive Parenting, youth were asked to report on the general climate within the home. The Involvement and Positive Parenting subscales showed adequate internal consistency reliability for child reports of parenting style (Involvement, Mothers $\alpha = .72$, Fathers $\alpha = .83$; Positive Parenting $\alpha = .74$).

Shelton and colleagues (1996) also examined the intercorrelations of the items across informants and response formats to evaluate the convergent validity of the APQ scores. Correlational analyses of APQ scores across both informants and reporting methods revealed that the Involvement and Positive Parenting subscales were uncorrelated with the remaining four subscales, but were highly related to each other, suggesting that these two subscales are measuring a single common dimension of

parenting. APQ scores were also examined to determine if there was an association between teacher-reported disruptive behaviour disorders and elevations on APQ subscales. For parent-reports, elevations on APQ subscales differentiated children with and without behaviour disorders. For child-reports, APQ scores showed relationships that approached significance in the expected direction. These results suggest that this measure is a valid means of assessing parental warmth for youth in this age range.

As in the original validation study, the Involvement and Positive Parenting subscales were highly intercorrelated in the current sample (Mothers $r = .74$; Fathers $r = .77$). Therefore, these items were combined to form a single Parental Warmth score, derived by taking the average of the 16 items. Higher scores reflect more youth-reported parental warmth. The internal consistency of this combined variable was excellent (Mothers $\alpha = .85$; Fathers $\alpha = .88$).

Warmth in the classroom environment. The same items were used to evaluate adolescents' perceptions of teacher warmth. Items were reworded to reflect student-teacher interactions (e.g., "How often does your teacher have a friendly talk with you?"). Three items were removed that were thought to be inappropriate for this context (e.g., "How often does your teacher drive you to a special activity;" "...attend parent/teacher conferences;" "...hug or kiss you when you have done something well"). In addition, one item was added based on work by Eccles and colleagues ("How often can you depend on your teacher to help you out when you have a personal or social problem?"; Roeser, Eccles, & Sameroff, 2000). The correlation between the Involvement and Positive Parenting subscales was high ($r = .59$), suggesting that there was a great deal of overlap between these two scales. Therefore, these scales were combined to make a

single score of teacher warmth. This created a school environment variable that parallels the warmth variable created for the home environment. The reliability of this modified scale was excellent (α = .87).

Psychological control in the home environment. Psychological control was evaluated using 9 items developed by Conger and colleagues (1997). For each item, adolescents reported how often from 1 (never) through 7 (always) they perceived their mothers and fathers to engage in one of nine behaviours in the last month (e.g., "How often did your mother/father criticize you or your ideas?"). These items were constructed to evaluate adolescents' perceptions of their parents' excessive control or intrusiveness.

The measure was designed to evaluate three aspects of parental control. First, the items assess the extent to which the parent pressures or tries to manipulate their child to do what the parent wants. Second, the scale measures the extent to which the parent makes his or her child feel that their input in decision-making is not worthy or valued. Finally, the measure evaluates the extent to which youth feel they have control over their lives. Scores on the 9 items were averaged in order to obtain a measure of psychological control for each parent. Higher scores reflect greater control exerted by the parent. Conger and colleagues report high internal consistency for the scale (Mothers, α = .84; Fathers, α = .82); and these values are equally high in the present investigation (α = .84 for both Mothers and Fathers).

In their research using this scale, Conger and colleagues (1997) report higher levels of adolescent-reported parental psychological control were significantly related to increased levels of both internalizing and externalizing problems, as well as decreased

levels of self-confidence. These results suggest that this measure is a valid means of assessing adolescents' perceptions of parental psychological control.

Psychological control in the classroom environment. As was done with the warmth items, the psychological control scale was adapted for use with teachers. Items were reworded to appropriately reflect the student-teacher relationship (e.g., "How often did your teacher criticize you or your ideas?"). As with the parent items, responses were averaged to reflect a mean level of psychological control in the classroom. This modified scale showed excellent internal consistency ($\alpha = .90$).

Decision-Making

Decision-making in the home environment. The Decision Making Questionnaire (DMQ) was used to assess the extent to which parents grant their adolescents decision-making opportunities (Dornbusch et al., 1985; Steinberg, 1987). The DMQ is a 17-item checklist where the adolescent indicates whether or not they are allowed decision-making opportunities in several domains, or if they jointly decide on issues with their parents. For example, adolescents were asked to report who decides, "whether you are too sick to attend school" and "what time you have to be home on weeknights." Response options included "teen decides" (1), "mother/father decides" (2 or 3), "either mother or father decides" (4), and "parents and teen decide together" (5). Responses to the DMQ have been treated in several different ways including collapsing scores into 3 categories ("youth decides," "parents decide," and "joint decision"; Dornbusch et al., 1985) and summing responses to all 17 items (Fuhrman & Holmbeck, 1995). For the purposes of this investigation, a measure of decision-making was needed that indicated the amount of input youth are allowed in decision-making, while at the same time reflecting the level of

involvement parents retain in making decisions. Youth-led decision making was not an adequate measure because it only provides an indication of the amount of decisions youth make. As discussed earlier, higher levels of youth decision making may not be uniformly positive at this young age. Therefore, the percentage of parent-only decision-making (ranging from 0 to 100) was used in the analyses. This score was calculated by summing the number of "parents decide" items and dividing by the total number of items on the scale (i.e. 17).

The DMQ has been used in many studies with adolescents, and results from this literature suggest that this is a reliable and valid measure of decision-making for this age group. Internal consistency reliability for adolescent reports in past research were adequate (e.g., Fuhrman & Holmbeck, 1995; $\alpha = .78$ for adolescent report), and it is even higher in the present sample ($\alpha = .85$). Decision-making that rests solely with the parent may be detrimental to youth development in that it does not allow youth opportunities to develop autonomy from parents. Indeed, Fuhrman and Holmbeck (1995) report greater parent exclusive decision-making is associated with less emotional autonomy from parents.

Decision-making in the classroom environment. Teacher support of decision-making opportunities was assessed with five items based on the work of Eccles and colleagues (Eccles, Early, Fraser, Belansky & McCarthy, 1997; Roeser, Eccles & Sameroff, 2000). This measure was designed to evaluate the extent to which youth perceive their teachers as providing them with opportunities to exercise control over different aspects of their learning. For instance, students indicated how often, from never (1) to always (5), they were given a say in choosing what activities to participated in,

whether they had some choice in the material they learn, or where they sat. A score reflecting the level of youth decision-making in the classroom was obtained by averaging these 5 items.

In their research, Eccles et al. (1997) have found these items to display adequate reliability ($\alpha = .78$). Eccles and her colleagues (Roeser & Eccles, 1998; Roeser, Eccles & Freedman-Doan, 1999; Roeser, Eccles & Sameroff, 2000) report that this measure positively predicts several adaptive adolescent outcomes including academic competence and positive mental health, indicating that this measure is appropriate for use with youth in this age range.

The internal consistency of these items in the current sample was much lower ($\alpha = .44$) than expected. As shown in Table 1, these items are not highly related to one another. However, these five items capture a broad range of different ways in which youth might be allowed decision-making opportunities in the classroom. It seems reasonable that decision-making opportunities in one area are not necessarily associated with greater decision-making opportunities in others. That is, a teacher may allow youth to choose where they sit in the classroom, but may not necessarily allow students to choose the next classroom activity. Thus, a high level of internal consistency may not be expected. Despite the low internal consistency, these 5 items were averaged to create an index of youth decision-making in the classroom because it was felt that the items sampled the construct comprehensively. School decision-making scores could range from 1 to 5, with higher scores reflecting more decision-making opportunities for youth in the classroom.

Table 1

Intercorrelations of School Decision-Making Items

	2	3	4	5
1. Choose own projects	-.07	.30*	.25	.01
2. Involved in decisions that affect them		.37**	.06	.25
3. Ideas and suggestions used during discussions			.03	.10
4. Choose own partners for group work				.12
5. Decide where to sit				1.00

*$p < .05$. **$p < .01$.

Self-efficacy

Self-efficacy was assessed globally, as well as in three specific domains. There is some disagreement over what is the most valid method of measuring the construct of self-efficacy. Some believe an overall omnibus measure is adequate whereas others argue that a domain-specific measure is the only valid method of evaluating an individual's level of self-efficacy. This split is partly due to variation in the definition of the self-efficacy construct. One the one hand, Bandura (1997) argues that self-efficacy is domain specific, and therefore it is not desirable, or perhaps even possible, to obtain an overall measure of an individual's level of self-efficacy. He argues that self-efficacy beliefs can generalize to similar situations within a domain, but that they likely do not generalize across domains. For example, students may have strong beliefs about their ability to do well in math, which falls under the domain of academic self-efficacy. The belief that one can do well in math can generalize to other academic subjects, but not to other abilities *outside* of the academic domain, such as social skills. Bandura would argue that an overall, or omnibus, measure of efficacy does not provide an accurate picture of an individual's abilities, and therefore may result in the loss of predictive power (Bandura, 1986; 1997).

Alternatively, others contend that individuals have experiences with success and failure in many different situations that result in an *aggregated* sense of mastery. The proponents of general efficacy beliefs argue that individuals carry with them this summed set of experiences when they approach a new task (Sherer et al., 1982; Sherer & Adams, 1983). Individuals who encounter success in multiple mastery experiences are more

likely to approach a new task with the expectation that they can complete it, whereas those whose mastery experiences are met with mainly negative outcomes would not. Given that caregiver contributions to the development of self-efficacy are unclear, both types of self-efficacy measures will be used.

Global self-efficacy. Adolescents' competence beliefs were assessed with the Perceived Self-Efficacy Scale (PSE; Hoeltje, et al., 1996). This measure consists of 20 items designed to evaluate youths' generalized self-efficacy beliefs (e.g., "How sure are you that you will manage well when you meet a person for the first time?"). Adolescents rated how confidently they felt they could handle several everyday tasks on a scale of 1 (not at all) to 5 (very sure). A generalized self-efficacy score was obtained by averaging these 20 items. Higher scores indicated greater perceived self-efficacy. Previous investigations using this measure have found a high level of internal consistency for these items (α = .95; Cowen et al., 1991; α = .92, Hoeltje et al., 1996). The internal consistency in the present investigation was similarly high (α = .85).

The GSE has demonstrated good concurrent validity. For instance, in terms of family functioning, higher scores on the GSE are associated with higher reports of parental warmth, and lower reports of parental rejection (Hoeltje et al., 1996). Hoeltje and colleagues (1996) found that adolescents who scored in the clinical range of the Child Behavior Checklist (CBCL) scored lower on the GSE than adolescents above the clinical cut-off. Additionally, higher scores on the GSE were also associated with higher academic achievement.

Domain-specific self-efficacy. To evaluate youth levels of self-efficacy in specific domains, both parents and youth completed three subscales from Bandura's

Multidimensional Scales of Perceived Self-Efficacy for Children (MSPSE; Bandura, 1990). The self-efficacy for self-regulated learning scale consists of 10 items that assess youths' perceptions of their capability to effectively manage their school-related demands (e.g., "How well can you finish your homework assignments by deadlines?"). The self-efficacy to enlist social resources scale consists of 4 items that assess youths' perceived capability to enlist help from peers and other adults in times of need (e.g., "How well can you get teachers to help you when you get stuck on schoolwork?"). Self-assertive self-efficacy is assessed with 4 items (e.g., "How well can you stand up for yourself when you feel you are being treated unfairly?"). All items are rated on a 7-point Likert scale, with scores ranging from 1 (not well at all) to 7 (very well). Scores were obtained by averaging items within each of these 3 subscales.

Previous investigations with youth ranging in age from 10 to 18 using this measure have found adequate to good reliability for each of these three subscales (e.g., self-regulated learning, $\alpha = .87$; enlist social resources, $\alpha = .60$; self-assertive, $\alpha = .84$; Bandura et al., 1996; Miller, Coombs, Fuqua, 1999). The internal consistency of these three subscales in the present sample was somewhat higher for parents' reports (self-regulated learning $\alpha = .92$, enlist social resources, $\alpha = .82$, self-assertive $\alpha = .82$) than for youth reports (self-regulated learning $\alpha = .87$, enlist social resources, $\alpha = .72$, self-assertive $\alpha = .74$). Bandura and colleagues (Bandura et al., 1996; 2001) have shown good predictive validity for these items in their work with 11 to 14 year old youth. Specifically, youth who report higher levels of self-efficacy in all three domains were also more likely to have higher grades, greater social competence, and lower levels of depression.

Results

Qualitative Analysis of Imposed Network Data

The first goal of the current investigation was to qualitatively explore the nature and extensiveness of youths' interactions with imposed network members. To this end, youth were asked to list the non-familial adults with whom they spent time, as well as how much time they spent together, what activities they engaged in, and whether or not these adults were important in their life. Youth generally found this task difficult to complete, and responses to the open-ended portion of the questionnaire were not always accurately completed. For instance, under the "time spent" category, some youth reported the extensiveness of their contact with imposed network members in a detailed manner (e.g., once a month for about 3 hours), whereas others were vague in their responses (e.g., about 6 hours). Therefore, it was difficult to categorize the extent of youths' contact with their imposed network members. Otherwise, however, youth completed the questionnaires correctly. First, a brief description of the coding procedures is presented. This is followed by a description of who imposed network members are across the sample and the nature of these relationships.

Classification of imposed network members into categories was done by first examining the list of adults reported by youth and looking for common threads among their reports. A close examination of the adults with whom youth spent time revealed similarities among their reports. From these similarities, categories for "type of adult," "activity," and "why they made a difference" were created. In order to ensure reliability in coding, 25% of cases were classified by a second coder. The inter-rater reliability for

the adult type category was 97.2%, for activity type was 100%, and for meaningfulness to the youth was 97.2%.

Classifying Imposed Network Members

Youth listed a wide variety of adults with whom they spent time, ranging from teachers and coaches to neighbours and employers. The majority of youth (88.5%) listed at least one non-familial adult with whom they spent time. On average, youth listed 3.28 adults (SD = 2.28) on their lists, with a range of 1 to 10 adults. Three categories of adults emerged: Imposed by Activity, Imposed by Proximity, and Social Network. These categories were all mutually exclusive in that adults could only be listed in one category. The range and average number of adults in each category is shown in Table 2 for youth who listed at least 1 member in that category. The first category of adults could be considered Imposed by Activity, meaning that these are adults youth spend time with by virtue of the activity in which they are engaged. Teachers, sports coaches, parents of peers and employers are examples of adults Imposed by Activity. These adults made up the largest proportion of youths' interactions with non-familial adults. The majority if youth (89.1%) listed at least one adult that fit this description.

The second largest grouping of adults could be described as Imposed by Proximity, meaning that these are adults youth spend time with based on their physical proximity to the youth. For instance, some youth listed neighbours, parents' friends and day care providers among the adults they spent time with. Just under half of the youth (41.3%) listed one or more adults Imposed by Proximity. In contrast to the large numbers of adults imposed on youth by activity choice, there was a smaller range of adults falling under the imposed by proximity category. Of those youth who listed at

Table 2

Descriptive Statistics of Imposed Network Data

	M	SD	Range
		Type of Adult	
Imposed by Activity	2.33	2.03	0 – 9
Imposed by Proximity	0.52	0.72	0 – 3
Social Network	0.43	1.22	0 – 6
		Type of Activity	
Teaching	1.59	1.39	0 – 6
Leisure	0.74	1.27	0 – 6
Support	0.96	1.99	0 – 10
		Why they Make a Difference	
Negative	0.05	0.23	0 – 1
Cannot Explain	0.30	0.52	0 – 2
Teaching	0.84	1.09	0 – 5
Positive Affect	1.11	1.66	0 – 6
Support	0.49	0.77	0 – 3

Note. Results are presented only for youth who listed at least 1 adult.

least one adults Imposed by Proximity, the majority reported spending time with only one adult due to physical proximity (78.9%), and the remaining youth reported two or three such adults in their networks.

The final group consists of adults who were not imposed on youth, but rather who were sought out for interaction by youth. A few youth reported that they had adult friends with whom they spent time. These adults did not fit the concept of imposed network, and instead could be better described as social network members, given that these are adults youth *choose* to spend time with. Only 17.4% of youth (n=8) listed at least one social network member. However, it would not be accurate to conclude that only a small percentage of youth have adults in their social networks, as youth were not asked to name social network members. The instructions were to merely list adults with whom they spent time that were not a part of their family.

Nature of Imposed Network Relationships

The second question regarding youths' imposed networks focused on examining the nature of the imposed network relationship. Specifically, the goal was to examine what activities youth engaged in with imposed network members, as well as whether youth felt these members were important to them in some way. In terms of activities, youths' interactions with imposed network members could be characterized as falling into one of three categories: Teaching Activities, Leisure and Support. Similar to the types of adults, the categories of activities were all mutually exclusive in that adults could only be listed in one activity category. Table 2 shows the average number of adults reported by youth who listed at least 1 adult in each category. The first category consisted of Teaching Activities. This included both classroom activities, as well as learning

experiences outside of the classroom, such as team sports, tutors and other extracurricular activities. The majority of youth (73.1%) reported interacting with at least one adult who performed a teaching function. Leisure included interactions reported as "play" or "having fun." Just under half of the youth (40.4%) reported having at least one adult with whom they engaged in leisure activities. The final category consisted of adults who were listed as providing Support to youth. That is, these were adults with whom youth spoke, obtained advice, or who were "good listeners."

Youth were also asked whether the adults with whom they interacted "made a difference" to them in some way. Youth were further instructed that the difference could be good or bad. For youth who listed at least 1 adult in their imposed network, 73.9% reported that these adults made a difference to them. These 34 youth listed 5 reasons why these adults made a difference. Again, these 5 categories were mutually exclusive. Youth reported that adults had a negative impact on youth, provided them with educational experiences, elicited positive affect, provided support, or were unable to explain why that adult made a difference. For youth who listed at least one adult that "made a difference" to them, very few youth reported that the adults with whom they interacted had a negative impact on their lives (6.5%). Interactions with imposed adults were listed as negative when these adults elicited negative affect from youth. For instance, one youth reported that his teacher was "hard to get along with." Another youth mentioned that the secretary at his school was a negative influence because she was "very grumpy and not nice." A small percentage (15.2%) of youth indicated that the adults they listed made a difference to them, but were unable to express how they made a difference.

For the most part, youth reported that adults made a positive difference in their lives, and were listed as such because they fulfilled one of three functions for youth that mirrored the activities in which they engaged. First, youth reported that adults made a difference because they "teach me things." Over a third of the youth (39.1%) reported that their interactions with an imposed network member were beneficial to them because they were educational in nature. The second reason youth reported that adults made a difference was because their interactions elicited positive affect from youth. That is, these were adults described as "fun," or that "make me feel good about myself." Over a third (39.1%) of youth reported the adults they listed made a difference because of their positive affective quality. Finally, adults were described as making a difference because they provided support to the youth. These were adults that the youth could go to for advice, or a sympathetic ear. Just under a third of youth (28.3%) reported having an adult who made a difference because they provided them with support.

In terms of functions and impact, it appears that imposed network members serve many of the same purposes as social networks do, despite the fact that they may not necessarily be chosen by the youth as sources of support. Adults who provide social support to youth may provide them with opportunities for learning, such as going to museums or other educational activities (Cochran & Brassard, 1979). Youth in this sample also reported that their imposed network members were valuable to them because of the learning opportunities they provided. One youth reported that they appreciated their imposed network member because "he teaches me a lot and I like to learn." Several youth mentioned that these adults encouraged them to better themselves through these learning opportunities. For instance, one boy noted that his soccer coach was important

to him because "he makes me better at soccer." Clearly youth appreciate the learning opportunities provided by their imposed network members.

One interesting finding was that youth appreciated the presence of these imposed adults because they elicited positive affect. An important function of social support members is to buffer the negative effects of stress (Cochran & Niego, 1995). In a sense, imposed network members may be performing a similar function by helping youth to feel good about themselves. This is best captured by the response of a girl who reported that her Big Sister made her day "brighter and better." Another girl mentioned that her Guide Leader was important to her because "I feel more confident around her." These imposed adults may function in a manner parallel to social support providers, in that they appear to promote positive feelings in youth which may in turn buffer them from potentially negative stressors. Similarly, youth also reported that imposed adults provided them with valuable support. These were adults youth could turn to for advice or a sympathetic ear. One girl mentioned that her best friend's mother was important to her because "she's a nice listener and explains <my homework> to me!" In addition to making them "happy," these adults also helped youth to solve problems and talk to them when needed. It appears that youth do not rely exclusively on social support members to provide them with various types of support. Youth have a number of options available them in terms of emotional support and learning opportunities.

Parent and Teacher Contributions to Self-efficacy Development

Preliminary analyses

Although youth provided separate reports of mothers and fathers, the correlations between mother and father warmth ($r = .78, p < .001$) and control ($r = .81, p < .001$)

showed that youths'perceptions of each parent were highly related. The key question, rather than evaluating the relative contribution of each parent to self-efficacy development, was one of evaluating the extent to which the overall home environment provided the necessary levels of warmth and control to allow youth to develop feelings of self-efficacy. Therefore, mother and father reports were combined to represent the mean levels of warmth and control in the home.

Means and standard deviations for the home and school environment variables, as well as the self-efficacy measures are presented in Table 3. In general, youth perceived their parents as moderately warm. Teachers were perceived as somewhat less warm than parents. In terms of psychological control, both parents and teachers were perceived as not very controlling. For decision-making, parents unilaterally made just under half of the decisions in the family ($M = 49\%$), with the remaining half of the decisions being nearly equally split between joint decisions with youth ($M = 25\%$), and youth deciding alone ($M = 26\%$). Youth reported being allowed a moderate level of input in classroom decision-making. This is comparable to the levels of decision-making reported by Eccles and her colleagues (Roeser, Eccles, & Sameroff, 1998). Finally, in terms of their self-efficacy beliefs, youth reported a moderate level of overall efficacy. Both youth and their parents perceived youth as having high levels of domain-specific self-efficacy. Univariate correlations between warmth, control, decision-making and youth and parent reports of self-efficacy are presented in Table 4. Overall, there were only weak relations between perceived warmth, control, decision-making and youth or parent reported self-efficacy. Parental warmth was only related to youth self-efficacy in two instances, both of which were in the opposite direction of what was hypothesized.

Table 3

Descriptive Statistics of Study Measures

Variable	*M*	*SD*	Range
Warmth			
Parent[a]	3.63	0.64	2.00 - 4.57
Teacher[a]	3.05	0.74	1.21 - 4.79
Psychological Control			
Parent[b]	2.07	0.82	1.00 - 4.17
Teacher[b]	1.98	1.02	1.00 - 5.00
Decision Making			
Percent Parent Decides	49%	20%	0 – 94%
Youth at School[a]	3.20	0.67	1.60 - 5.00
Self-Efficacy			
Youth Report			
Overall[a]	3.29	0.56	2.10 - 4.47
Self-Regulated Learning[b]	4.98	0.92	3.09 - 7.00
Enlist Social Resources[b]	4.90	1.06	2.50 - 7.00
Self-Assertive[b]	4.92	1.19	1.50 - 7.00
Parent Report			
Self-Regulated Learning[b]	5.10	1.01	2.00 - 7.00
Enlist Social Resources[b]	5.00	1.12	2.25 - 6.92
Self-Assertive[b]	5.01	1.12	1.75 - 7.00

Note. [a]possible range 1-5. [b]possible range 1-7.

Table 4

Correlations between Self-Efficacy and Home and School Environments

		Youth-Reported Efficacy				Parent-Reported Efficacy		
		Global	SRL	SR	SAE	SRL	SR	SAE
Warmth	Parent	.02	.10	.11	-.26[a]	-.37[**]	-.11	-.10
	Teacher	.09	.08	.20	-.07	-.01	.28[a]	-.13
Control	Parent	-.15	-.23	-.12	-.11	.04	.04	-.04
	Teacher	-.31[*]	-.27[*]	-.32[*]	-.27[a]	-.21	-.32[*]	-.23
Decision Making	Parent	-.15	.04	.06	.12	.03	-.27	.08
	School	.15	-.02	.48[***]	-.07	-.07	.22	-.17

Note. SRL = Self-Regulated Learning, SR = Enlist Social Resources, SAE = Self-Assertive Efficacy

[a]$p < .06$. [*]$p < .05$. [***]$p < .001$.

Contrary to expectations, youth who perceived higher levels of warmth from parents tended to report lower levels of self-assertive self-efficacy. Teacher warmth was also largely unrelated to reports of self-efficacy, with one exception. There was a trend for youth reports of teacher warmth to be positively related to parent reports of their child's self-efficacy for enlisting social resources. Although non-significant, a similar relationship was found for youths' reports of self-efficacy for enlisting social resources.

Perceptions of teacher psychological control were consistently related to self-efficacy, whereas perceptions of parental psychological control were not. Youth perceptions of teacher control were consistently negatively related to youth reports of self-efficacy. In this case, youth who perceived their teachers to be more psychologically controlling, also reported less global competence, and fewer feelings of efficacy for planning their schoolwork or seeking help from others. There was also a trend for youth who perceived their teachers as more controlling to feel less capable of standing up for themselves and asserting their rights. Further, consistent with expectations, teacher control was consistently negatively related to parents' perceptions of youth self-efficacy. In particular, parents reported their child was better at seeking help from others when the youth perceived their teacher as exerting lower levels of psychological control.

With respect to decision-making, parent-led decision-making was not significantly related to either youth or parent reports of self-efficacy. Decision-making opportunities in the classroom were significantly related to only one indicator of youth-reported self-efficacy. Youth who perceived greater opportunities for classroom decision-making reported higher levels of efficacy for enlisting help from others.

In order to determine whether there was a need to control for age in the regression analyses, the correlations between age and the key study variables were evaluated. These correlations are presented in Table 5. With one exception, age was unrelated the key study variables. Therefore, age was not controlled for in the main analyses.

Differences by gender in reports of parent and teacher styles and self-efficacy were evaluated with MANOVAs. The means of each variable by gender, as well as the results of each MANOVA are presented in Table 6. There were no significant multivariate differences between boys and girls on any of the parenting or teacher variables. For youth-reported self-efficacy, there was a significant multivariate effect. Univariate effects showed that girls reported significantly higher levels of self-efficacy for self-regulated learning and for enlisting social resources than boys. There were no differences between boys and girls on global or self-assertive self-efficacy. For parent-reported self-efficacy, there was no significant multivariate effect of gender. Potential gender differences in the correlations between the parenting/teacher variables, and the indicators of self-efficacy were also evaluated. These results are presented in Table 7. Surprisingly, the pattern of correlations between perceptions of warmth, control, decision-making and self-efficacy appeared to differ for boys and for girls. In terms of parental warmth, it appears that for boys, higher levels of warmth are associated with lower levels of self-efficacy, whereas for girls the association is mostly positive. On the other hand, when girls perceive higher levels of parental psychological control, they also report lower levels of self-efficacy. For boys, parental psychological control either has no effect on levels of self-efficacy, or is positive. Teacher

Table 5

Correlations between Youth Age and Main Study Variables

		Age
Warmth	Parent	-.07
	Teacher	-.07
Psychological Control	Parent at Home	.004
	Youth at School	.04
Decision Making	Parent	-.19
	Teacher	-.001
Self-efficacy (Youth Report)	Global	-.07
	Self-Regulated Learning	-.02
	Enlisting Social Resources	.02
	Self-Assertive	-.04
Self-efficacy (Parent Report)	Self-Regulated Learning	-.01
	Enlisting Social Resources	.31*
	Self-Assertive	.10

* $p < .05$

Table 6

Means and Standard Deviations of Key Variables by Gender

		Boys	Girls	F (df)
Parent				$F(3, 48) = 1.66$
	Warm	3.62 (0.64)	3.66 (0.64)	
	Psychological Control	2.38 (0.84)	1.80 (0.73)	
	DM (Parent)	0.49 (0.19)	0.46 (0.22)	
Teacher				$F(3, 46) = 0.63$
	Warm	3.10 (0.64)	2.98 (0.84)	
	Control	2.06 (0.88)	1.88 (1.18)	
	DM (Youth)	3.22 (0.48)	2.17 (0.85)	
Self Efficacy				
Youth Report				$F(4, 47) = 2.94^{*}$
	Global	3.25 (0.49)	3.33 (0.63)	$F(1, 50) = 0.28$
	Self-Reg. Learning	4.67 (0.86)	5.34 (0.88)	$F(1,50) = 7.80^{**}$
	Social Resources	4.63 (1.05)	5.21 (0.99)	$F(1, 50) = 4.11^{*}$
	Self Assertive	4.86 (1.32)	4.99 (1.03)	$F(1, 50) = 0.16$
Parent Report				$F(3, 42) = 1.40$
	Social Resources	4.85 (1.14)	5.18 (1.09)	
	Self-Reg. Learning	4.83 (1.04)	5.43 (0.88)	
	Self Assertive	4.80 (1.21)	5.27 (0.96)	

$^{*}p < .05$. $^{**}p < .01$.

Table 7

Correlations between Youth-Reported Self-Efficacy and Home and School Environments

		Global		*Self-Reg. Learning*		*Social Resources*		*Self Assertive*	
		M	F	M	F	M	F	M	F
Warmth	Parent	-.20	.21	-.08	.30	-.16	.43*	-.45*	.01
	Teacher	.23	.00	.23	.02	.13	.33	-.22	.11
Control	Parent	.17	-.47*	.03	-.35	.24	-.44*	-.06	-.17
	Teacher	-.31	-.30	-.31	-.21	-.14	-.45*	-.26	-.29
Decision Making	Parent	-.03	-.24	.03	.12	.24	-.08	-.07	.38
	Teacher	.24	.12	.26	-.17	.33	.68***	-.14	-.01

Note. M = Males, $N = 28$; F = Females, $N = 24$

[a]$p < .06$. *$p < .05$

psychological control is negatively related to self-efficacy for both boys and girls. Therefore, the possible moderating role of gender was evaluated in the main analyses.

Overall plan of analysis

A series of regression analyses were conducted to evaluate the contributions of parents and teachers to adolescent self-efficacy development. Three sets of analyses were conducted. First, the influences of parent and teacher warmth, control and decision-making opportunities on self-efficacy development were evaluated in separate hierarchical regression analyses. Second, the process through which warmth and control influence self-efficacy was evaluated. The final analyses evaluated the relative influence of parents and teachers on self-efficacy development. These analyses also assessed the possibility of an interaction between the effects of the parent and teacher predictors on youth self-efficacy.

Given the large number of analyses being conducted, it is possible that any significant results may be due to chance. In order to protect against excessive Type I errors, the first step in the analyses involved a series of multivariate regressions in which the overall relationship between the set of predictors and the set of criterion variables was evaluated. This multivariate technique provides an omnibus test of the overall relationship between the sets of independent and dependent variables, and acts as an initial screening procedure. The multivariate R^2 provides an indication of whether or not there is any relationship between the set of predictors (e.g. warmth, control and decision-making) and the set of self-efficacy variables. Only when the multivariate test of significance for each set of variables was statistically significant were the univariate regressions (between a single criterion and a set of predictors) evaluated.

Parental influence on self-efficacy

The results of the multivariate analyses revealed a significant relationship between the set of youth-reported self-efficacy variables and perceptions of parental warmth, control and decision-making (Multivariate $R^2 = 0.43$, $\chi^2(16) = 26.02$). In contrast, there was no significant multivariate relationship between the set of parent-reported self-efficacy indicators and parental warmth, control and decision-making. Therefore, only univariate analyses predicting youth-reported self-efficacy from the parenting predictors were conducted.

The regression analyses were conducted in three steps, and followed guidelines provided by Aiken and West (1991) for regressions containing an interaction term. At the first step, gender was entered as a control. At the second step, standardized continuous-level predictor variables (i.e., warmth, control or decision-making) were entered to evaluate main effects. These variables were standardized in order to reduce problems with multicollinearity, and for ease of interpretation of significant interaction effects. In the third step, interaction terms were entered. These terms were created by multiplying the warmth, control and decision-making variables with gender. Results are presented separately for regression analyses predicting self-efficacy from parental warmth (Table 8), parental psychological control (Table 9), and parent decision-making (Table 10).

Parental Warmth. As shown in Table 8, gender was a significant predictor of two domains of self-efficacy. Girls perceived themselves more capable of planning their school-related work than boys. For self-efficacy for enlisting social resources, there also a significant effect of gender, but this effect was qualified by an interaction with warmth.

Table 8

Regression of Youth-Reported Self-Efficacy on Parental Warmth

Step and Measure	R^2	ΔR^2	F for ΔR^2	Final B
Dependent Variable: Global Self-Efficacy				
1. Gender	.01		.28	.04
2. Warmth	.01	.00	.01	.02
3. Warmth X Gender	.05	.04	2.03	.11
			Overall F(3,51)=0.77	
Dependent Variable: Efficacy for Self-Regulated Learning				
1. Gender	.14		7.80*	.33**
2. Warmth	.14	.01	0.44	.09
3. Warmth X Gender	.17	.03	1.82	.16
			Overall F(3,51)=3.37*	
Dependent Variable: Efficacy for Enlisting Social Resources				
1. Gender	.08		4.11*	.29*
2. Warmth	.09	.01	0.51	.13
3. Warmth X Gender	.16	.08	4.37*	.29*
			Overall F(3,51)=3.09*	
Dependent Variable: Self-Assertive Efficacy				
1. Gender	.003		.16	.08
2. Warmth	.07	.07	3.66[a]	-.29[a]
3. Warmth X Gender	.14	.06	3.52[a]	.30[a]
			Overall F(3,51)=2.52[a]	

[a]$p < .06$. *$p < .05$. **$p < .01$

Table 9

Regression of Youth-Reported Self-Efficacy on Parental Control

Step and Measure	R^2	ΔR^2	F for ΔR^2	Final B
Dependent Variable: Global Self-Efficacy				
1. Gender	.01		.28	-.001
2. Control	.03	.02	0.91	-.12
3. Control X Gender	.14	.12	6.72*	-.21*
			Overall F(3,51)=2.69*	
Dependent Variable: Efficacy for Self-Regulated Learning				
1. Gender	.14		7.80*	.28*
2. Control	.15	.02	0.92	-.16
3. Control X Gender	.19	.04	2.06	-.19
			Overall F(3,51)=3.66*	
Dependent Variable: Efficacy for Enlisting Social Resources				
1. Gender	.08		4.11*	.25
2. Control	.08	.00	0.08	.12
3. Control X Gender	.18	.11	6.20*	-.37*
			Overall F(3,51)=3.58*	
Dependent Variable: Self-Assertive Efficacy				
1. Gender	.003		.16	.02
2. Control	.01	.01	.50	-.14
3. Control X Gender	.02	.002	.10	-.06
			Overall F(3,51)=0.25	

*$p < .05$.

Table 10

Regression of Youth-Reported Self-Efficacy on Parental Decision Making

Step and Measure	R^2	ΔR^2	F for ΔR^2	Final B
Dependent Variable: Global Self-Efficacy				
1. Gender	.01		.28	.04
2. Decision Making	.03	.02	1.13	-.07
3. Decision Making X Gender	.04	.02	0.79	-.06
			Overall F(3,51)=0.73	
Dependent Variable: Efficacy for Self-Regulated Learning				
1. Gender	.14		7.80*	.34**
2. Decision Making	.14	.01	0.28	.06
3. Decision Making X Gender	.14	.00	0.22	.03
			Overall F(3,51)=2.61[a]	
Dependent Variable: Efficacy for Enlisting Social Resources				
1. Gender	.08		4.11*	.28*
2. Decision Making	.09	.01	0.48	.10
3. Decision Making X Gender	.11	.03	1.47	-.16
			Overall F(3,51)=0.12	
Dependent Variable: Self-Assertive Efficacy				
1. Gender	.003		.16	.08
2. Decision Making	.02	.01	.57	.13
3. Decision Making X Gender	.05	.03	1.72	.23
			Overall F(3,51)=0.82	

*$p < .05$. **$p < .01$

The hypothesis that higher levels of warmth on the part of parents would lead to greater feelings of self-efficacy on the part of youth was not supported. Significant interactions with gender emerged in two instances. With respect to self-efficacy for enlisting social resources, perceived parental warmth was a significant positive predictor of feelings of efficacy for girls (r= .43, p < .05), but was unrelated to such feelings for boys (r = -.16, p = *ns*). For self-assertive self-efficacy, the results were unexpected in that there was a trend for warmth to be negatively related to feelings of self-assertiveness for boys (r = -.45, p < .05), but were unrelated for girls (r = .01, p = *ns*).

Parental psychological control. It was expected that excessive amounts of parental psychological control would lead to lower feelings of self-efficacy. As shown in Table 9, there were no main effects of parental control on any of the youth-reported indicators of self-efficacy. However, there were significant interactions between gender and control for both global self-efficacy and self-efficacy for enlisting social resources. In both cases, parental psychological control was a significant negative predictor of self-efficacy for girls, but not for boys. Girls who perceived their parents as exerting higher levels of psychological control reported feeling lower global efficacy (r = -.47, p < .05), and also felt less capable of seeking out help from others (r = -.45, p < .05). On the other hand, boys appeared unaffected by their parents' levels of psychological control (r = .17, p = *ns* for global; r = -.14, p = *ns* for social resources).

Parent decision-making. Youth who reported that their parents retained the majority of the decision-making power in the family were expected to report lower feelings of self-efficacy. As shown in Table 10, this hypothesis was not supported, as parent-led decision-making was unrelated to youths' feelings of competence. Further,

there were no interactions between gender and decision-making, indicating that this relationship did not differ for girls and boys.

Teachers' influence on youth self-efficacy[1]

Multivariate tests were run to evaluate the overall relationship between the set of teacher predictors and the criterion variables. There was a significant relationship between the set of youth-reported self-efficacy variables and youth perceptions of teacher warmth, control and decision-making (Multivariate $R^2 = 0.55$, $\chi^2(16) = 42.23, p < .05$). There also were significant relations between the set of parent-reported self-efficacy variables and teacher warmth, control and decision-making (Multivariate $R^2 = 0.43$, $\chi^2(12) = 21.91, p < .05$). Therefore, univariate analyses were conducted predicting each youth-reported indicator of self-efficacy from teacher warmth, control and decision-making (Table 11). These same analyses were repeated for each parent report of youth self-efficacy (Table 12).

The regressions were initially conducted in the same manner as for parents above. However, there were no significant interactions between any of the predictor variables and gender. Therefore, interactions with gender were dropped from the regression equations and all three independent variables (i.e., warmth, control and decision-making) were evaluated simultaneously.

Youth-reported self-efficacy. Youth who perceived higher levels of warmth, lower levels of psychological control and greater opportunities for decision-making were expected to also report higher levels of self-efficacy. This hypothesis was partly supported (see Table 11). As shown in the partial correlations, teacher psychological control was associated with lower levels of self-efficacy. However, the final betas

Table 11

Regression of Youth-Reported Self-Efficacy on Teacher Warmth, Control and Decision Making

Step and Measure	R^2	ΔR^2	F for ΔR^2	Final β	Partial r
Dependent Variable: Global Self-Efficacy					
1. Gender	.01		0.66	.10	
2. Warmth				.04	.13
Control				-.25	-.28*
Decision Making	.10	.09	1.46	.08	.17
			Overall F (4,49) =1.26		
Dependent Variable: Self-Efficacy for Self-Regulated Learning					
1. Gender	.15		8.68**	.38**	
2. Warmth				.12	.16
Control				-.23	-.25
Decision Making	.22	.07	1.30	-.10	.02
			Overall F (4,49) =3.19*		
Dependent Variable: Self-Efficacy for Enlisting Social Resources					
1. Gender	.09		4.78*	.32*	
2. Warmth				.06	.27[a]
Control				-.13	-.30*
Decision Making	.37	.28	6.65***	.45***	.53***
			Overall F(4,49)=6.61***		

Dependent Variable: Self-Assertive Self-Efficacy					
1. Gender	.01		0.65	.07	
2. Warmth				-.05	-.01
Control				-.29	-.24
Decision Making	.09	.07	1.19	-.11	-.04
			Overall F (4,49) =1.06		

$^{*}p < .05$. $^{**}p < .01$. $^{***}p < .001$

Table 12

Regression of Parent-Reported Self-Efficacy on Teacher Warmth, Control, and Decision Making

Step and Measure	R^2	ΔR^2	F for ΔR^2	Final β	Partial r
Dependent Variable: Self-Efficacy for Self-Regulated Learning					
1. Gender	.10		4.61*	.28	
2. Warmth				.03	.02
Control				-.17	-.15
Decision Making	.13	.03	0.45	-.10	-.06
			Overall F (4,43) =1.44		
Dependent Variable: Self-Efficacy for Enlisting Social Resources					
1. Gender	.04		1.61	.21	
2. Warmth				.29	.35*
Control				-.20	-.27
Decision Making	.21	.18	2.90*	.11	.25
			Overall F (4,43) =2.63		
Dependent Variable: Self-Assertive Self-Efficacy					
1. Gender	.06		2.77	.18	
2. Warmth				-.07	-.09
Control				-.24	-.18
Decision Making	.13	.07	1.07	-.18	-.14
			Overall F (4,43) =1.50		

*$p < .05$.

showed that the effects of control were reduced to non-significance when considered simultaneously in the equation with warmth and decision-making.

Warmth and decision-making were not consistently related to youth-reported self-efficacy. For warmth, the partial correlations suggest there is a trend for a positive association between perceived teacher warmth and feelings of competence for enlisting social resources. However, this relationship was reduced to non-significance when entered in the equation simultaneously with control and decision-making.

Teacher support for decision-making in the classroom was largely unrelated to youths' feelings of self-efficacy, with one exception. Overall, the atmosphere at school was most important in terms of understanding youth self-efficacy for enlisting social resources. Together, warmth, control, and decision-making contributed 28% of the variance in the prediction of self-efficacy. Youth who perceived greater opportunities for decision-making in the classroom also reported feeling more capable of seeking out help when needed. This relationship remained significant when considered alone (partial $r = .53, p < .01$) as well as when in the full model ($\beta = .45, p < .01$).

Parent-reported self-efficacy. Similar analyses were conducted with parents' reports of youth self-efficacy as the dependent variables. Again it was expected that the more youth perceived their teachers as being warm, the less they perceived them as psychologically controlling, and the more opportunities for decision-making they were provided, the more likely parents would be to rate them highly on all indicators of self-efficacy. However, as the results in Table 12 indicate, this hypothesis was not supported. The results of all regressions revealed no overall effect of the three predictors on parents' reports of their child's self-efficacy. As with youth reports, the classroom environment

contributed most to parents' reports of their child's level of self-efficacy for enlisting social resources. Together, youth perceptions of teacher warmth, psychological control and decision-making accounted for 18% of the variance in parents' reports of self-efficacy for enlisting social resources, although the relationship was non-significant when all three variables were considered simultaneously.

Testing Mediation

The next set of analyses address the process through which warmth and control influence self-efficacy. It was hypothesized that a relationship between parent or teacher style and youth self-efficacy would be due to the specific opportunities that parents or teachers provide youth for decision-making. That is, the granting of decision-making opportunities was expected to mediate the association between parenting (or teaching) style and self-efficacy. In order to establish a mediating relationship, four criteria must be met (Baron & Kenney, 1986). First, the predictor variable (e.g., parenting style) has to significantly account for variation in the mediator (e.g., decision-making). Second, the mediator must significantly account for variation in the criterion variable. Third, the predictor variable has to significantly account for variation in the criterion variable (e.g., self-efficacy). Finally, the significance of the relation between the predictor and criterion variables must be reduced when the relationship between the mediator and criterion is taken into account.

For parents, the correlations in Table 13 show no significant relationship between parental warmth and decision-making or between parental control and decision-making (Condition 1). Therefore, the first condition was not met, and a test for mediation using parenting style variables could not be conducted.

Table 13

Correlations between Warmth, Control and Decision Making

	Warmth	Psychological Control	Decision Making
		Home	
Warmth	1.00		
Psychological Control	-.23	1.00	
Decision Making	-.02	.19	1.00
		School	
Warmth	1.00		
Psychological Control	-.25	1.00	
Decision Making	.39**	-.30*	1.00

*$p < .05$. **$p < .01$.

In contrast, for teachers, there was a significant association between warmth and opportunities for classroom decision-making, as well as a significant association between control and opportunities for classroom decision-making. Thus, Condition 1 was met. As shown in Table 3, there was a significant association between decision-making and youth reports of self-efficacy for enlisting social resources (Condition 2). There were no other significant relations between decision-making and other aspects of self-efficacy. Considering teacher warmth and self-efficacy for enlisting social resources (Condition 3), the correlations in Table 14 showed that teacher warmth was unrelated to youth reported self-efficacy. Therefore, Condition 3 was not met in this instance. Overall, the required initial conditions only allowed for a full test of mediation between teacher psychological control and youth-reported efficacy for enlisting social resources, as shown in Figure 1.

Hierarchical regression analyses were employed to evaluate whether the association between teacher psychological control and youth reports of self-efficacy for enlisting social resources is reduced when decision making is considered (Condition 4). Gender was controlled for in the first step, followed by teacher control in the second step, and decision-making in the third. Condition 3 was met if teacher control significantly contributed to the prediction of self-efficacy for enlisting social resources at Step 2, and Condition 4 was met if the relationship between teacher control and self-efficacy was reduced after the addition of decision-making at Step 3.

The results of this analysis supported the proposed mediational model. As shown in Table 14, teacher control accounted for a small, but significant proportion (8%) of the variance in youths'perceptions of their ability to enlist help from others, after controlling for gender. Further, the addition of decision-making opportunities to the regression

Figure 1

Mediational model

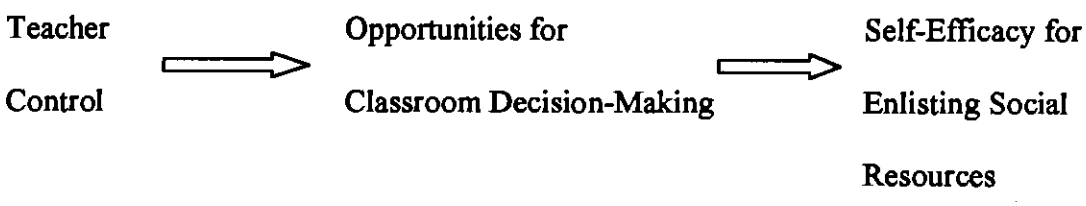


Table 14

Test for mediation

Step and Measure	R^2	ΔR^2	F for ΔR^2	Step 2 β	Step 3 β
Dependent Variable: Self-Efficacy for Enlisting Social Resources					
1. Gender	.09		4.78*	.27*	.32**
2. Control	.17	.08	4.47*	-.28*	-.14
3. Decision Making	.37	.20	14.37***		.47***
			Overall F (3,49) =8.90***		

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

equation reduced the contribution of teacher control to the prediction to self-efficacy to non-significance. Therefore, there is evidence that opportunities for decision-making help to explain the negative relationship between teacher control and youths' feelings of self-efficacy for enlisting social resources. Teachers who are perceived as more controlling are also perceived by youth as providing fewer opportunities for decision-making in the classroom. When given fewer opportunities to be involved in decisions that affect them, youth feel less capable of seeking help from others when it is needed.

Combined influence of parents and teachers

The final series of regression analyses evaluated the combined influence of parents and teachers on self-efficacy development. Two competing hypotheses were evaluated. The first possibility was that parents and teachers would each provide unique contributions to the prediction of youth-reported self-efficacy, suggesting that there is an additive effect. The second possibility was that youth who perceived their parents or teachers as providing low levels of warmth, high levels of control, or few opportunities for decision-making would benefit from a caregiver (i.e., a parent or teacher) who provided more warmth, less control or more opportunities for decision-making, suggesting a buffering effect.

Youth-reported self-efficacy. Preliminary multivariate tests were again employed to protect against excessive Type I error. The results of the multivariate tests revealed a significant relationship between the set of youth-reported self-efficacy variables and parent and teacher decision-making (Multivariate $R^2 = .46$, $\chi^2(12) = 27.92$, $p < .01$). However, the relationship between youth-reported self-efficacy and parent and teacher warmth was not significant (Multivariate $R^2 = .23$, $\chi^2(12) = 12.25$, $p = ns$). Nor was there

a significant relationship between youth-reported self-efficacy and parent and teacher control (Multivariate $R^2 = .23$, $\chi^2(12) = 11.69$, $p = ns$). Therefore, only univariate regressions predicting youth reports of self-efficacy from combined parent and teacher decision-making were conducted.

Gender was entered as a control in the first step of the regression analyses. The standardized parent and teacher predictors (i.e., decision-making) were entered at the second step in order to determine if there was an additive effect in the prediction of self-efficacy. If parent and teacher decision-making each predicted unique variance in youth-reported self-efficacy, this would provide support for the additive hypothesis. In the third step, an interaction term was entered. This term was created by multiplying the parent predictor with the teacher predictor (i.e., parent decision making X teacher decision making). A significant interaction would indicate that parents' influence on youth self-efficacy varies at different levels of teacher influence.

As shown in Table 15, there was no evidence for either the additive or buffering hypothesis. Classroom opportunities for decision-making were significantly related to youths' reports of self-efficacy for enlisting social resources. Together, parent and teacher decision-making contributed 27% of the variance in the prediction of self-efficacy for enlisting social resources. However, this effect was largely due to the impact of classroom opportunities for decision-making ($\beta = .64$, $p < .01$). It would appear that input in decisions made at school are relatively more important for feelings of competence in help-seeking than a lack of input in decisions made at home. There was no interaction between levels of parent-led decision-making and opportunities for decision-making in the classroom.

Table 15

Regression of Youth-Reported Self-Efficacy on Parent and Teacher Decision Making

Step and Measure	R^2	ΔR^2	F for ΔR^2	Final B	Partial r
Dependent Variable: Global Self Efficacy					
1. Gender	.01		0.58	.13	
2. Parent Decision Making				-.06	-.15
Teacher Decision Making	.05	.04	0.97	.10	.15
3. Parent X Teacher DM	.06	.01	0.26	.04	.07
			Overall F(4,50)=0.68		
Dependent Variable: Efficacy for Self-Regulated Learning					
1. Gender	.15		8.33**	.72**	
2. Parent Decision Making				.07	.08
Teacher Decision Making	.15	.01	.15	.02	-.004
3. Parent X Teacher DM	.15	.00	.04	.02	.03
			Overall F(4,50)=2.05		
Dependent Variable: Efficacy for Enlisting Social Resources					
1. Gender	.09		4.67*	.77**	
2. Parent Decision Making				.22	.10
Teacher Decision Making	.36	.27**	10.10**	.64**	.51**
3. Parent X Teacher DM	.39	.03	1.97	.17	.20
			Overall F(4,50)=7.28**		
Dependent Variable: Self-Assertive Efficacy					
1. Gender	.01		0.42	.24	

2. Parent Decision Making				.13	.12
Teacher Decision Making	.02	.02	0.36	-.04	-.06
3. Parent X Teacher DM	.02	.00	0.04	.04	.03
			Overall F(4,50)=0.29		

$^{*}p < .05$. $^{**}p < .01$.

Parent-reported self-efficacy. The preliminary multivariate tests only revealed a significant relationship between the set of parent-reported self-efficacy variables and parent and teacher warmth [Multivariate $R^2 = .52$, $\chi^2(9) = 30.21$, $p < .01$]. There was no significant association between either parent and teacher control (Multivariate $R^2 = .33$, $\chi^2(9) = 16.29$, $p = ns$) or parent and teacher decision-making (Multivariate $R^2 = .27$, $\chi^2(9) = 12.99$, $p = ns$) and the self-efficacy variables. Therefore, univariate regressions predicting parent reports of youth self-efficacy from parent and teacher warmth were conducted.

As shown in Table 16, the results of the regression of parent-reported self-efficacy on the combined effects of warmth provide support for the interactive hypothesis, with one exception. The combined effects of parent and teacher warmth contributed 18% of the variance in the prediction of parent-reported efficacy for self-regulated learning. However, there was no evidence to support the additive hypothesis. Instead, the regression weights suggest that this increase in prediction was mainly due to the negative association between self-efficacy and parental warmth. Teacher warmth was largely unrelated to parent-reported levels of self-efficacy. Contrary to the buffering hypothesis, there was no significant interaction between parent and teacher warmth. The combination of parent and teacher warmth also explained 17% of the variance in self-efficacy for enlisting social resources. However, in this case the interaction between parent and teacher warmth was also a significant predictor of both parent-reported efficacy for enlisting social resources and self-assertive efficacy. Significant interactions were probed according to procedures outlined by Aiken and West (1991). Specifically, simple slope analyses were conducted to evaluate whether the

Table 16

Regression of Parent-Reported Self-Efficacy on Parent and Teacher Warmth

Step and Measure	R^2	ΔR^2	F for ΔR^2	Final B	Partial r
Dependent Variable: Efficacy for Self-Regulated Learning					
1. Gender	.09		4.28*	.33*	
2. Parent Warmth				-.47**	-.39**
Teacher Warmth	.27	.18	5.28**	.27	.02
3. Parent X Teacher Warmth	.29	.02	0.91	.20	.15
			Overall F(4,45)=4.14**		
Dependent Variable: Efficacy for Enlisting Social Resources					
1. Gender	.02		1.02	.23	
2. Parent Warmth				-.30	-.11
Teacher Warmth	.19	.17	4.31*	.56*	.30*
3. Parent X Teacher Warmth	.26	.07	4.10*	.47*	.30*
			Overall F(4,45)=3.66**		
Dependent Variable: Self-Assertive Efficacy					
1. Gender	.05		2.07	.25	
2. Parent Warmth				-.003	-.10
Teacher Warmth	.06	.02	0.34	-.05	-.11
3. Parent X Teacher Warmth	.15	.09	4.25*	.51*	.31*
			Overall F(4,45)=1.79		

*$p < .05$. **$p < .01$

association between self-efficacy and the parent warmth differed at different levels of teacher warmth. It was expected that lower levels of warmth provided by one caregiver would be buffered by higher levels provided by the other. However, as shown in Figure 2, this was not the case. Post hoc probing of this interaction indicated that when parent warmth was high, the level of teacher warmth was unrelated to levels of self-efficacy ($B = .15, p = ns$). However, when parent warmth was low, teacher warmth was significantly negatively associated with self-efficacy for enlisting social resources ($B = -.74, p < .05$).

Finally, the regression of parent-reported self-assertive efficacy on the combined effects of parent and teacher warmth revealed no significant main effects. The interaction between parent and teacher warmth added significant variance at the third step of the model, although the overall regression was not significant ($R^2 = .15, p = ns$). Despite the lack of a significant multivariate relationship, the interaction was probed in order to determine if it followed the same pattern as that found above. The results of the simple slope analyses revealed a positive, but non-significant relationship between teacher warmth and self-assertive self-efficacy when parent warmth was high ($B = .49, p = ns$), and a negative, although non-significant relationship when parent warmth was low ($B = -.48, p = ns$). As shown in Figure 3, this was a true crossover interaction in that neither slope was statistically significantly increasing or decreasing. Still, the effects of teacher warmth within a context of low parent warmth displayed a similar pattern for self-assertive self-efficacy as was found for self-efficacy for enlisting social resources. This result is puzzling in that it is opposite of what was expected. It is surprising that in

Figure 2

Interaction between Parent and Teacher Warmth for Self-Efficacy for Enlisting Social Resources

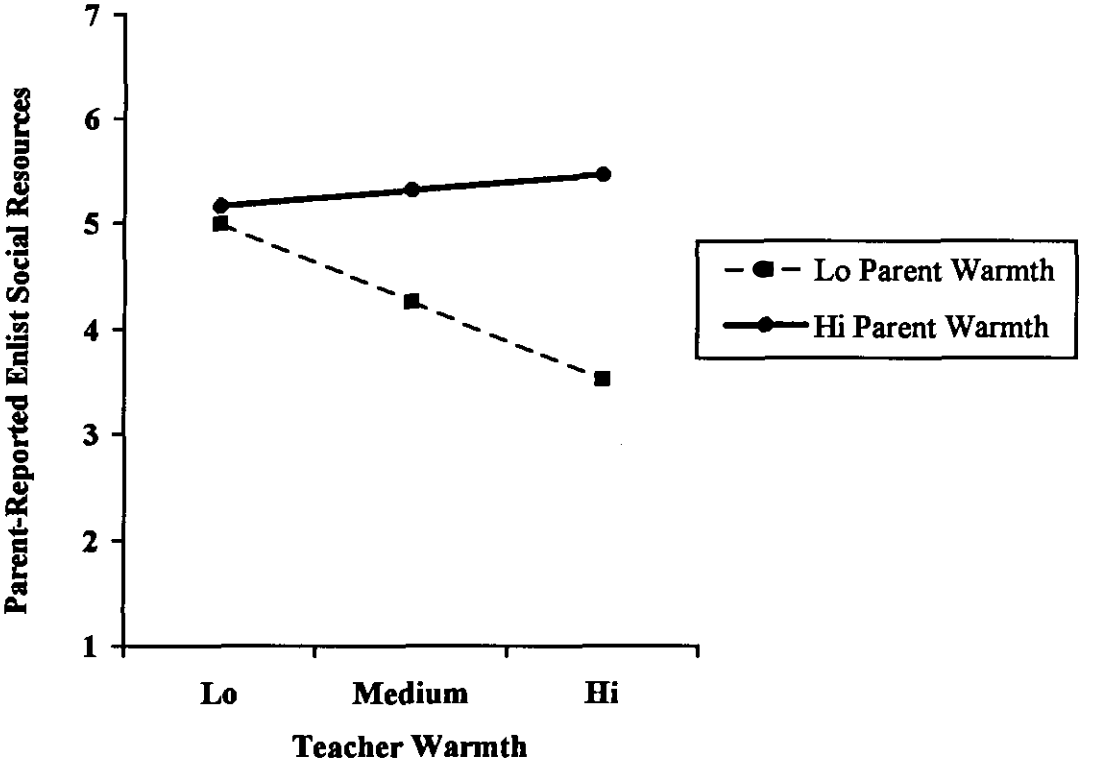
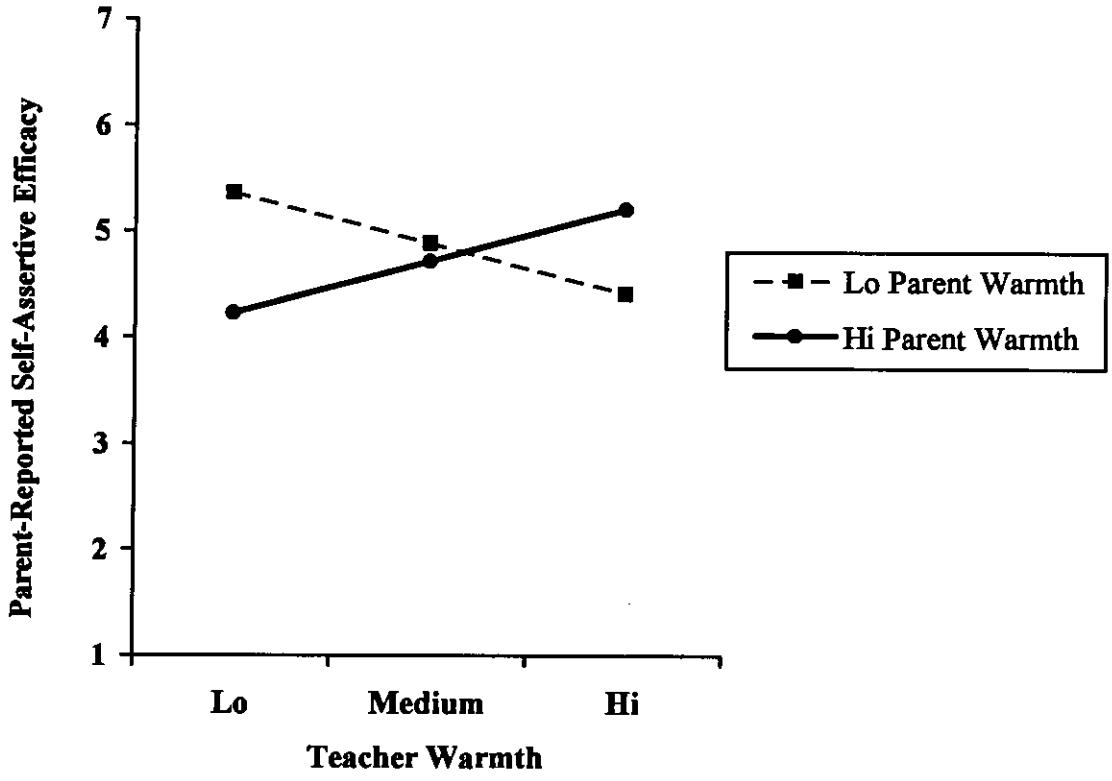


Figure 3

Interaction between Parent and Teacher Warmth for Self-Assertive Self-Efficacy



context of lower parent warmth, lower teacher warmth is related to higher levels of parent-reported youth self-efficacy.

Discussion

The current investigation sought to evaluate several issues, including the extent of imposed network relationships and the ways in which parents and teachers contribute to the development of feelings of self-efficacy in youth. This investigation is one of a only handful of studies that evaluates the joint influence of parents and teachers on youth development (e.g., Brody et al., 2003; Wentzel, 2003). Relatively little is known about the interaction of multiple influences on youth development, and this investigation adds to the literature by directly comparing the relative contributions parents and teachers make to self-efficacy development.

Limitations

Before discussing the meaning and implications of these results, it is first important to evaluate the limitations of this study that may impact the interpretation of the findings. The most challenging limitation of the research was the small sample size. The available literature shows consistent linkages between levels of parental warmth and control and several indicators of youth development (Steinberg, 2001). Therefore, it was surprising that few associations were found in the current sample. However, the small sample may have led to a lack of power for detecting significant effects. The effect sizes for the current regression analyses varied from small (.05) to medium (.20). Cohen (1992) suggests that for a small effect size approximately 550 participants would be needed to detect a significant effect, and for a medium effect size approximately 75

participants would be ideal. Thus, it is possible that the lack of significant findings is partly due to the limitations imposed by the small sample size.

The small sample size also is likely to have an impact on the generalizability of these results. Given that youth and their parents elected to participate in the project, it may be that these youth and their parents share unique characteristics that set them apart from those who chose not to participate. The current sample may not be representative of all youth 9 to 11 years of age. The youth and parents in the current investigation reported moderate to high levels of self-efficacy, with few reporting lower levels. In addition, parents and teachers were viewed quite positively by youth. Few parents or teachers were perceived as providing low levels of warmth or high levels of psychological control. Therefore, these youth appear to be developing in a generally positive manner within mostly positive home and school climates. There is a significant underrepresentation of youth low in self-efficacy or who experience more negative home and school climates. To obtain a clearer understanding of the associations between parental and teacher determinants of youth self-efficacy, a sample that captures the full range of youths' experiences would be required.

Another issue worthy of consideration is the cross-sectional nature of the data. Past research by Anderman and Midgley (1997) has shown decreases in levels of self-efficacy based on age and school transitions. However, the youth were sampled from a restricted age range, and only at one point in time. Therefore, it is not surprising that the univariate correlations did not show a significant association between the key outcome variables and age. Age may also have limited the results in that the youth in this study had not yet experienced a significant school transition. The research showing decreases

in self-efficacy over time has focused on the impact of the transition to middle school as a potential cause of declines in feelings of self-efficacy.

The method of data collection may also have influenced the results. That is, the results presented are based on a mono-method design where only self-reports were used. Further, in some analyses only youths' reports of all constructs were used. Some investigators would argue that objective measurement of parenting practices through observation is more valid, and can provide a more accurate picture of parent-child (or teacher-student) interactions. The current reports of parenting only assessed the participants' perceptions of their environment, rather than the actual levels of warmth, control and decision-making displayed by parents. It is possible that youths' levels of self-efficacy affect these perceptions. That is, youth higher in self-efficacy may perceive their interactions with parents and teachers more positively. A more complete evaluation of the impact of youths' perceptions of their home and school climates on self-efficacy would be obtained through longitudinal research. Perceptions of home and school climate would need to be obtained at two points in time, in order to determine the temporal ordering of perceptions of climate and feelings of self-efficacy. In this way, it would be possible to examine whether perceptions of home and school climate at Time 1 influence changes in feelings of self-efficacy at Time 2.

Parent reports of youth self-efficacy were included in order to reduce problems associated with using only one reporter. Although methodologically advantageous, it is difficult to ascertain how well parents can report on a construct that is internal to youth. Can parents know how their children feel about their abilities? It may be that parents' reports more accurately reflect how well their child *could* perform the tasks listed in the

self-efficacy measure, rather than whether their child *feels* they can perform the tasks. In fact, parents' and youths' reports of youth self-efficacy were not significantly correlated, suggesting that parents and youth did not evaluate youths' level of competence similarly. Therefore, it is difficult to speculate whether any significant results based on parental reports of youth self-efficacy in fact reflect youths' perceptions of their abilities, or parents' perceptions of their youths' actual abilities.

The current investigation is also limited in the manner in which the influence of teachers was evaluated. That is, the 52 youth in this sample reported on 22 different teachers. Youth within classroom settings reported on a single teacher, whereas youth from summer camps reported on multiple teachers. This is problematic in that there is a chance of both within and between group differences of reports of teachers. That is, the variation in reports of teachers within groups may be different from the variation in reports of teachers between groups. Ideally, this situation could be improved in one of two ways. The first solution would have been for all youth to report on different teachers. This would have eliminated the need to control for the variation within classrooms before evaluating the effects of the teacher variables at the group level. However, given the difficulty in obtaining a large enough sample from the summer camp program, this was not possible. An alternative solution would have been to obtain larger numbers of youth within each classroom, in order to properly evaluate the within and between group effects. It would have been interesting to evaluate the potential of nested models, had this design been intentional. Such analyses would have evaluated the effects of a single teacher on a group of students (e.g., within group effects), as well as the impact that teachers have on youth development more generally (e.g., between group

effects). Unfortunately, there were too few youth within groups (i.e., some as low as 1 per group) to consider this to be a 'nested' model in the traditional sense.

Another methodological limitation of the current investigation stems from a measurement perspective. The measures used were chosen based on whether they met three criteria. First, the measure needed to adequately sample the construct of interest. Second, the measures were evaluated on the basis of their psychometric properties. A measure was chosen for use if it displayed adequate levels of internal consistency, as well as some evidence for construct validity. The final criterion used was the brevity of the measure. The goal was to assess the key areas comprehensively, but briefly. The school decision-making measure was thought to be ideal initially because it met all three of these criteria. However, the internal consistency of the school decision-making items was lower in the current sample than that reported by others (Roeser et al., 1999; 2000). This is problematic in that results derived from this measure must now be interpreted with caution, as their reliability may be questionable.

One final limitation concerns the use of the open-ended imposed networks questionnaire. Youth were free to list (or not) any adult who was not a family member in their list of imposed network members. The intention was to evaluate which adults that youth would list spontaneously, rather than imposing on them a list of adults with whom they may or may not interact. Given that relatively little is known about which non-familial adults are most salient to youth, it was hoped that this open-ended method of response would elicit the largest number of non-familial adults. However, it was clear that youth were selective in choosing which adults to put on their list. For instance, although all youth had teachers, not all youth listed teachers as imposed network

members. It may be that youth were more likely to list adults who mattered to them, and leave out adults they felt were less important. Thus, it is uncertain whether the lists of imposed network members generated by youth accurately reflect how extensive these networks really are.

Implications

Despite these limitations several interesting findings emerged. These findings will be discussed in turn beginning with a discussion of youths' imposed networks, followed by a closer look at predictors of youth self-efficacy.

Imposed networks. Ample evidence is available in the literature regarding the importance and influence of proximal influences on youth, such as that provided by social network members. Further, a growing body of evidence is accumulating regarding the relatively distal impact of neighbourhoods on youth development. However, to date there is little evidence available examining the influences that fall between these two domains. That is, we know a great deal about influential adults youth and their parents choose to have in their social circles, but we know relatively little about the influence of adults that are not specifically chosen by them. Thus, the first goal of this research was to qualitatively explore the nature and extent of youths' relationships with imposed network members. Youth were asked to list the non-familial adults with whom they interacted, as well as indicate the context and extensiveness of this contact. Youth found this task to be somewhat difficult; however, they were able to provide an initial exploration into their contact with imposed network members.

It was interesting that not all youth listed their teachers in their list of imposed network members. In fact, out of the 149 adults that were listed by youth, only 11 were

teachers. This raises questions about who youth were thinking of when they were listing non-familial adults with whom they spent time. It would seem logical that all youth would list teachers given that this is the non-familial adult they likely spend the most time with over the course of a year. Could it be that youth only listed those adults that mattered most to them? If this is the case, then this lends support to Wentzel's (2002) report that not all students feel their teacher has a significant impact on their lives.

Although not all youth listed their teachers, the most common type of imposed network member listed were adults Imposed by Activity. This group included teachers, sports coaches, and other adults who interacted with youth in teaching activities. Further, youth appreciated the fact that these adults performed a primarily educational function. Youth reported that these adults mattered to them because they "teach me new things," and "make me better" at a given activity. This first group of imposed network members was quite extensive in that they were listed by nearly all youth who reported spending any time with non-familial adults. It could be argued that these results may be somewhat skewed in that half of the sample were enrolled in a summer camp program, and many of these youth listed their summer camp leaders. Not all youth who were recruited through the schools may have attended any summer camp, and therefore they may have been exposed to fewer adults within this category. However, youth recruited through the school setting still listed adults Imposed by Activity as the most common adult with whom they interacted. It is important then to evaluate the extent of this influence, and to determine what aspects of teaching are most related to subsequent development. Adults who performed a teaching function made up just over half (51%) of all adults listed by youth, and made up the majority of the Imposed by Activity category (92.6%). The

results suggest that the decision to focus on teachers as an imposed network influence was a good one, in that youth reported extensive interactions with adults who acted like teachers.

Settling the global vs. domain specific efficacy debate. Not all indicators of self-efficacy were equal in terms of their relation to the influence of parents and teachers. Some domains of self-efficacy appear more influenced by adults than others. Specifically, self-efficacy for self-regulated learning was mostly unrelated to any of the parent or teacher predictors. On the other hand, self-efficacy for enlisting social resources, self-assertive and global self-efficacy were related to several aspects of parent and teacher influence.

Earlier, arguments for and against the use of global measures of self-efficacy were presented. Bandura argues that global measures should never be used, as feelings of self-efficacy are specific to each task or domain of functioning (Bandura, 1997). On the other hand, proponents of omnibus self-efficacy measures argue that one's experiences with mastery in one domain generalize to others, resulting in an aggregate sense of self-efficacy (Sherer & Adams, 1983; Sherer et al., 1982). However, if a global sense of efficacy were possible, then we would expect all of the indicators of self-efficacy to be equally predicted by the influence of parents and teachers. This was not the case, suggesting that Bandura may be correct in his assertion that it is not possible, or even wise, to attempt to measure self-efficacy in a more global manner.

Gender differences in levels of self-efficacy. Girls reported significantly higher levels of self-efficacy for self-regulated learning and enlisting social resources than boys. These results are consistent with those presented by Anderman and Midgley (1997) who

reported higher levels of perceived competence for girls than boys before the transition to middle school. These authors, as well as Juang and Vondracek (2001) found that gender differences disappear after the middle school transition. It is uncertain how this transition specifically impacts youths' feelings of self-efficacy. Because of the cross-sectional nature of the data in the current investigation, it is not possible to evaluate whether a similar trend would be seen among these youth.

Overall, there were few relationships between parenting and self-efficacy, and when associations were found, they differed for girls and for boys. In general, the emotional climate provided by parents was more predictive for girls than for boys. Girls who perceived their parents as more warm and less psychologically controlling reported higher levels of self-efficacy in several domains (i.e., enlisting social resources, global). However, for boys the results were surprising in that parental warmth had the opposite effect. When boys perceived more warmth from their parents, they reported lower levels of self-efficacy. It may be that in terms of promoting self-efficacy, higher levels of parental warmth are more beneficial for girls than they are for boys. Perhaps for girls higher levels of parental warmth provide the ideal supportive environment for exploring their budding independence, whereas for boys, the same level of warmth may undermine their quest for independence. From an early age, boys and girls are inundated with implicit messages from parents and other caregivers that boys are supposed to be more independent and girls are supposed to be more interdependent (Youniss, 1994). Girls are taught that to be successful as they grow older, they must learn to share and cooperate with others. Boys, on the other hand, are told that they must learn to be self-reliant and not show weakness. Perhaps the differential effects of parental warmth and control on

the self-efficacy of girls and boys can be explained by these differences in gender role expectations that begin at an early age.

An unlimited amount of warmth may not be the ideal environment in which to foster boys' feelings of self-efficacy. Rather, too much warmth may have a detrimental effect. Boys who receive an outpouring of warmth from their parents may feel stifled by an excess of support and involvement. This may prevent boys from exploring the world away from their caregivers, and prevent them from seeking opportunities for mastery on their own. Without such experiences, boys may feel less competent in their abilities, as they would have had few or no opportunities to develop skills away from the watchful eyes of parents. Similarly, boys who are lower in self-efficacy may elicit more support from parents. Parents who perceive their son as displaying less self-efficacy may provide more support in an effort to encourage boys to seek out the mastery experiences necessary to build a strong sense of self-efficacy.

Conversely, for girls, higher levels of warmth may be beneficial to developing feelings of self-efficacy in that they are consistent with parents' socialization goals. That is, parents may support girls' development of interpersonal skills in order to increase their relational competence. Therefore, girls may be encouraged to seek help from others more often than are boys, who are expected to be more independent. Consistently, girls in the current sample did show higher levels of self-efficacy for enlisting social resources than boys.

Girls' levels of self-efficacy were also impacted by parental psychological control in the manner expected. When girls perceived their parents as more psychologically controlling, they felt less capable of seeking help from others, and felt an overall lower

level of competence. Boys, however, appeared relatively unaffected by the psychological control displayed by their parents. Thus, parental psychological control appears to undermine feelings of competence for girls more than it does for boys. Bandura (1997) has suggested that one route through which feelings of self-efficacy are undermined is through direct discouragement. Thus, it seems plausible that higher levels of psychological control would lead to lowered feelings of competence, as these types of interactions send the message to youth that they are not as capable as they might believe. That is, parents who insist that youth see things their way may implicitly be sending a message that they perceive their child's ideas as less than perfect. Youth may then internalize this message and subsequently experience lower levels of self-efficacy. However, the current results only support this hypothesis for girls. Perhaps for girls these types of messages have a more negative impact because of their greater interpersonal orientation. It may be that girls are more negatively affected by criticism and guilt induction because they are more sensitive to these cues in interpersonal interactions. That is, being told their ideas are not valued may be more detrimental to girls' developing self-efficacy than boys'. Psychological control may be a subtle, but powerful deterrent to developing beliefs about self-efficacy for girls.

The measure of control used in the current investigation evaluates the extent to which parents control youth by eliciting negative affect in their interaction. However, there are other types of parental control. Steinberg and colleagues (Gray & Steinberg, 1999) have suggested that psychological control and behavioural control are related, but distinct, components of parent-child interactions. Given that direct experience with mastery has the potential to be the most potent mode of influence on feelings of self-

efficacy, it may be the case that higher levels of behavioural control prevent youth from seeking out mastery experiences. Therefore, it may be the case that boys are relatively more influenced by other forms of parental control, such as behavioural control, that were not assessed in the current study. Perhaps boys are less affected by the implicit messages that are transmitted through psychological control, and more affected by the direct messages transmitted through behavioural control. Boys' feelings of self-efficacy may be negatively influenced by their parents' attempts at restructuring their environment to prevent them from gaining opportunities for mastery.

The impact of the classroom environment. Several dimensions of the classroom environment have been evaluated in relation to youths' academic success, including teachers' feelings of efficacy and specific teaching practices (Wentzel, 2002). However, the socialization role that teachers play in youth development is a relatively understudied phenomenon. The current investigation adds to this small body of literature by addressing the role that teachers play in the development of youths' feelings of self-efficacy. The most consistent finding regarding youth self-efficacy was the negative impact of perceptions of psychological control on the part of teachers. When youth perceived their teachers as employing guilt-inducement, criticism and nagging as means of controlling their students, they reported lower levels of self-efficacy in all domains assessed (though some only at the trend level). These results suggest that teachers should be aware of the classroom management methods used, as these practices may have a more negative impact on youths' perceptions of competence than they realize.

A second element of the classroom environment that influenced youths' perceptions of self-efficacy was the opportunity to be involved in decision-making.

Teachers who allowed youth input in classroom decisions had students who reported higher levels of self-efficacy for enlisting social resources. Although this effect was only found for help-seeking self-efficacy, it was a strong effect. Further, opportunities for classroom decision-making were apparently more influential than opportunities for decision making at home on youths' reports of self-efficacy for enlisting social resources. Therefore, being involved in classroom decisions was an important determinant of feeling capable of seeking help from others. This is consistent with Bandura's notion of mastery experiences, in that youth provided with more opportunities to decide things for themselves felt more confident about their abilities. Teachers can help to foster feelings of self-efficacy in youth by involving them in a wide variety of decisions in the classroom. Youth in the current investigation were involved in decisions as simple as choosing their seat in the classroom, to decisions as substantial as what the next classroom activity will be. It may not be necessary for teachers to allow youth complete control over the structure of the day's lesson plan; however, allowing youth to make even minor decisions can make a difference.

The youth in this sample were only asked to report on five aspects of decision-making in their classrooms. As reported earlier, some of the psychometric properties of this classroom decision-making scale were less than ideal. However, given the strength of the association between opportunities for classroom decision-making and help-seeking self-efficacy, it would be useful to add to this literature in the future. For instance, the results presented here could be replicated in a larger sample to ensure they are robust, and not sample dependent. A replication of these results would allow for firmer conclusions about the effects of classroom decision-making. In addition, the literature on the impact

of teachers could benefit from the development of a more extensive measure of classroom decision-making. At present, few measures are available for evaluating the impact of teachers as socializing agents. The current results were limited in that they relied on measures of parenting adapted for use in the classroom setting. A more comprehensive measure of classroom decision-making would be beneficial, as would specific measures assessing the emotional climate in the classroom.

Additive and interactive effects of parents and teachers. Neither parents' nor youths' reports of self-efficacy provided strong evidence for additive or buffering effects of parents and teachers. No evidence for additive or interactive effects were found when youths' reports of self-efficacy were considered. However, some surprising results emerged with respect to the joint effects of parent and teacher warmth when parents' reports of self-efficacy were considered. Contrary to the buffering hypothesis, higher levels of teacher warmth in the context of low parent warmth predicted lower levels of self-efficacy among youth. Thus, warmth received from teachers does not appear to compensate for a relative lack of warmth from parents.

It is important to consider the range of the key variables when evaluating these results. Although scores on the parent and teacher climate variables were mostly normally distributed, the majority of scores fell within a restricted range. This fact is relevant to the results for two reasons. First, parents and teachers were characterized in a mostly positive manner. Few parents or teachers were perceived as excessively low in warmth, or excessively overcontrolling. Thus, there was little for parents or teachers to "buffer" with respect to the other. Without actual reports of low levels of warmth and high levels of control, it is impossible to properly evaluate the buffering hypothesis.

Therefore, future investigations could benefit from investigating these relationships within a wider range of scores. Second, the results of the warmth interaction need to be interpreted with this restricted range in mind. More specifically, although "lower" levels of warmth were associated with higher levels of self-efficacy, the levels of parent and teacher warmth were only low in a relative sense. The lower levels of warmth reported by youth in this sample do not reflect an objectively low level of warmth on the part of parents, but imply more moderate levels of warmth. Therefore, the interaction could be more accurately interpreted as the effect of teacher warmth at moderate levels of parent warmth. The lowest levels of self-efficacy were found among youth when parents provided lower levels of warmth than did teachers. Under conditions of lower parental warmth, teacher warmth does not act as a buffer. Instead, it seems that higher teacher warmth in a context of lower parent warmth negatively impacts youth self-efficacy.

These results suggest that youth benefit from an overall moderate level of warmth provided by one or more caregivers, as long as the other adult does not provide more warmth than their own parents. This is at odds with an additive view, which would suggest that the more warmth youth receive from various sources should be linearly associated with higher levels of self-efficacy. It may be that the discrepancy between the warmth received at home and at school confuses youth and compromises their levels of self-efficacy. As noted earlier, some investigators (e.g., Sherer et al., 1982) argue that generalized feelings of self-efficacy develop through a summed set of interactions with their environment. Youth may require consistency in their interactions with different adults in order to develop stronger feelings of competence, just as similar experiences are required in different domains are needed to develop a strong global feeling of self-

efficacy. In this view, youth may benefit when parents and teachers provide consistent, moderate, levels of warmth. This may be especially salient in light of the fact that youth will only spend one year with the same teacher, whereas they will always have the same parents. Youth whose parents are moderately warm may not feel that they are missing out on anything; they may be happy with the emotional climate they experience at home. However, when these same youth go to school and encounter a teacher who is warmer than their parents, they may be confused or be uncertain as to how to interpret the additional support. They must learn to reconcile their experiences in these two environments, and attempt to make sense of these discrepant styles of interaction. These results suggest that consistency between environments may be important in developing a sense of oneself as a competent and capable individual.

Future Directions

These results provide some evidence that one type of imposed adult—teachers—do play a significant role in youths' psychological development. Specifically, teachers' levels of psychological control and involvement in decision-making affected youths' feelings of competence. Like parents, teachers can act as socializing agents. Even youth recognized that teachers, and other adults who act as teachers, have the power to influence their lives. However, the impact of teacher-students interactions on youths' socio-emotional development has been relatively neglected in the psychological literature. An important direction for further research in this area concerns the implication of interactions with multiple teachers. When youth transition from elementary to middle school or high school, they also transition from having one primary teacher to having several. It is at this time that youth also report drops in feelings of self-

efficacy (Midgley, Eccles, & Feldlaufer, 1991; Wigfield & Eccles, 1994). One factor related to drops in self-efficacy may be the lack of a connection with one primary teacher. Alternatively, youth may be able to eventually form meaningful connections with multiple teachers, and prevent further drops in self-efficacy. In their imposed networks, adults who performed a teaching function were the most common type of adult listed. Given that teachers, in one form or another, are a pervasive influence on youth, it would seem important to understand the influence that multiple teachers have on youth development.

The impact of warmth, control and opportunities for decision making in the home and at school were not consistently related to youths' feelings of self-efficacy. This raises the possibility that these aspects of the home and school environments may not be the most salient precursors of feelings of self-efficacy. One possibility is that youths' own personal characteristics are more influential initially in developing feelings of self-efficacy than are external factors, such as the emotional climate provided by parents and teachers. For instance, youth with different temperaments may be more or less likely to seek out the mastery experiences necessary for developing strong feelings of competence. Youth who are more curious and adventurous at younger ages may have more opportunities to experience mastery than youth who are more shy and reluctant to explore their environments. Similarly, youths' level of attachment to parents may also play a key role. Youth with a secure attachment to parents may spend a greater amount of time away from parents exploring their environments and experiencing success in various tasks. Youth who are insecurely attached may either be afraid to stray from parents or be uninterested in seeking out experiences for mastery. Thus, the youths' own

characteristics may contribute to their greater exposure to mastery experiences. Further research evaluating the relative influence of factors internal to the youth vs. those that are external is needed.

In contrast to the weak relations between parenting and self-efficacy found in the current study, other investigators have found linkages between warmth and support provided by adults and youth self-efficacy (Hoeltje et al., 1996;). Most of these investigations have examined the impact of home and school environments on feelings of competence in youth Grade 6 and older, as well as after the experience of a school transition (Anderman & Midgley, 1997; Wigfield & Eccles, 1994). The current sample is comprised of youth who are only beginning the transition to adolescence, and who have not yet made a significant school transition. The lack of significant results may be due to the young ages of the participants. It may be that linkages between parental support, control and self-efficacy found by previous investigators are not predictive of self-efficacy among younger children. The literature suggests many youth will experience changes in their levels of self-efficacy over time associated with puberty and school transitions (Juang & Vondracek, 2001; Roeser & Eccles, 1998; Roeser et al., 1999). Perhaps the emotional climate and experiences provided by parents and teachers are more predictive of changes in levels of self-efficacy, rather than being influential in their initial development. This question can best be addressed through longitudinal research, which would allow for the examination of the developmental trajectory of self-efficacy, as well as the factors that inhibit or promote change.

Another issue to consider is the context within which parent and teacher warmth are embedded. Youth reported that both parents and teachers displayed high levels of

warmth and relatively low levels of psychological control. However, the interaction between these separate components of the emotional climate was not evaluated. For example, it may be that the negative impact of psychological control overrides the positive impact of warmth. As Bandura noted, discouragement and lack of support are more powerful in deterring feelings of self-efficacy than are encouragement and support for success. Thus, it may be that the occurrence of negative interactions with parents and teachers are more detrimental to a youths' developing feelings of competence than are the more frequently occurring instances of warmth. The size of the current sample did not permit for a full analysis of this specific question. Therefore, a larger and more representative sample is needed in order to evaluate this issue.

References

Aiken, L. S., & West, S. G. (1991). *Multiple Regression: Testing and interpreting interactions*. London, England: Sage.

Anderman, E. M., & Midgley, C. (1997). Changes in achievement goal orientations, perceived academic competence, and grades across the transition to middle-level schools. *Contemporary Educational Psychology, 22*, 269-298.

Bandura, A. (1986). The explanatory and predictive scope of self-efficacy theory. *Journal of Social and Clinical Psychology, 4*, 359-373.

Bandura, A. (1993). Perceived self-efficacy in cognitive development and functioning. *Educational Psychologist, 28*, 117-148.

Bandura, A. (1997). *Self-efficacy: The Exercise of Control*. New York: Freeman and Company.

Bandura, A., Barbaranelli, C., Caprara, G. V., & Pastorelli, C. (1996). Multifaceted impact of self-efficacy beliefs on academic functioning. *Child Development, 67*, 1206-1222.

Barber, B. K., Olsen, J. E., & Shagle, S. C. (1994). Associations between parental psychological and behavioural control and youth internalized and externalized behaviors. *Child Development, 65*, 1120-1136.

Barber, B. K. (1997). Adolescent socialization in context – The role of connection, regulation, and autonomy in the family. *Journal of Adolescent Research, 12*, 5-11.

Baron & Kenny, (1986). The moderator-mediator variable distinction in social-psychological research: Conceptual, strategic and statistical considerations. *Journal of Personality and Social Psychology, 51*, 1173-1182.

Baumrind, D. (1966). Effects of authoritative parental control on child behavior. *Child Development, 37*, 887-907.

Berry, J. M., & West, R. L. (1993). Cognitive self-efficacy in relation to personal mastery and goal setting across the life span. *International Journal of Behavioral Development, 16*, 351-379.

Briggs, X. S. (1997). Moving up versus moving out: Neighborhood effects in housing mobility programs. *Housing Policy Debate, 8*, 195-234.

Brody, G. H., Dorsey, S., Forehand, R., & Armistead, L. (2002). Unique and protective contributions of parenting and classroom processes to the adjustment of African

American children living in single-parent families. *Child Development, 73,* 274-286.

Brody, G. H., Ge, X., Conger, R., Gibbons, F. X., McBride, V., Gerrard, M., & Simons, R. L. (2001). The influence of neighborhood disadvantage, collective socialization, and parenting on African American children's affiliation with defiant peers. *Child Development, 72,* 1231-1246.

Bronfenbrenner, U. (1986). Ecology of the family as a context for human development: Research perspectives. *Developmental Psychology, 22,* 723-742.

Burton, L. M., & Jarrett, R. L. (2000). In the mix, yet on the margins: The place of families in urban neighborhood and child development research. *Journal of Marriage and the Family, 62,* 1114-1135.

Chung, H. & Elias, M. (1996). Patterns of adolescent involvement in problem behaviors: Relationship to self-efficacy, social competence, and life events. *American Journal of Community Psychology, 24,* 771-784.

Cochran, M. (1993). Parenting and personal social networks. In T. Luster & L. Okagaki (Eds.), *Parenting: An Ecological Perspective* (pp. 45-68). Hillsdale, NJ: Lawrence Erlbaum Associates.

Cochran, M. & Niego, S. (1995). Parenting and social networks. In M. Bornstein (Ed.), *Handbook of Parenting: Vol. 3. Status and social conditions of parenting.* (pp. 393-418). Hillsdale, NJ: Lawrence Erlbaum Associates.

Cochran & Brassard, (1979). Child development and personal social networks. *Child Development, 50,* 601-616.

Cohen, J. (1993). A power primer. *Psychological Bulletin, 112,* 155-159.

Conger, J. K., Conger, R. D., & Scaramella, L. V. (1997). Parents, siblings, psychological control, and adolescent adjustment. *Journal of Adolescent Research, 12,* 113-138.

Crockenberg, S. (1987). Support for adolescent mothers during the postnatal period: Theory and research. In C. F. Boukydis (Ed.), *Research on support for parents and infants in the postnatal period.* (pp. 216-238). Norwood, NJ: Ablex.

Darling, N. & Steinberg, L. (1993). Parenting style as context: An integrative model. *Psychological Bulletin, 113,* 487-496.

Dornbusch, S. M., Carlsmith, J. M., Bushwall, S. J., Ritter, P. L., Leiderman, H., Hastorf, A. H., & Gross, R. T. (1985). Single parents, extended households, and the control of adolescents. *Child Development, 56,* 326-341.

Earls, F., McGuire, J., & Shay, S. (1994). Evaluating a community intervention to reduce the risk of child abuse: Methodological strategies in conducting neighborhood surveys. *Child Abuse and Neglect, 18*, 473-485.

Eccles, J. S., Early, D., Graser, K., Belansky, E., & McCarthy, K. (1997). The relation of connection, regulation and support for autonomy to adolescents' functioning. *Journal of Adolescent Research, 12*, 263-286.

Erford, B. T. (1995). Parent autonomy enhancement and development of self-efficacy. *Psychological Reports, 77*, 1347-1353.

Fletcher, A. C., Darling, N., Steinberg, L., & Dornbusch, S. M. (1995). The company they keep.

Fuhrman, T., & Holmbeck, G. N. (1995). A contextual-moderator analysis of emotional autonomy and adjustment in adolescence. *Child Development, 66*, 793-811.

Fuligni, A. J., & Eccles, J. S. (1993). Perceived parent-child relationships and early adolescents' orientation toward peers. *Developmental Psychology, 29*, 622-632.

Furstenberg, F. F. (2000). The sociology of adolescence and youth in the 1990s: A critical commentary. *Journal of Marriage and the Family, 62*, 896-910.

Garbarino & Kostelny, (1993). Neighborhood and community influences on parenting. In T. Luster & L. Okagaki (Eds.), *Parenting: An Ecological Perspective* (pp. 203-226). Hillsdale, NJ: Lawrence Erlbaum Associates.

Gonzales, N. A., Cauce, A. M., Friedman, R. J., & Mason, C. A. (1996). Family, peer, and neighborhood influences on academic achievement among African American adolescents: One-year prospective effects. *American Journal of Community Psychology, 24*, 365-387.

Gray, M. R., & Steinberg. L. (1999). Unpacking authoritative parenting: Reassessing a multidimensional construct. *Journal of Marriage and the Family, 61*, 574-587.

Hoeltje, C. O., Zubrick, S. R., Silburn, S. R., & Garton, A. F. (1996). Generalized self-efficacy: Family and adjustment correlates. *Journal of Clinical Child Psychology, 25*, 446-453.

Holmbeck, G. N., Paikoff, R. L., & Brooks-Gunn, J. (1995). Parenting adolescents. In M. Bornstein (Ed.), *Handbook of Parenting: Vol. 1. Children and Parenting* (pp. 91-118). Hillsdale, NJ: Lawrence Erlbaum Associates.

Kurdek, L. A., & Fine, M. A. (1994). Family acceptance and family control as predictors of adjustment in young adolescents: Linear, curvilinear, or interactive effects? *Child Development, 65*, 1137-1146.

Lamborn, Mounts, N. S., Steinberg, L., & Dornbusch, S. M. (1991). Patterns of competence and adjustment among adolescents from authoritative, authoritarian, indulgent, and neglectful families. *Child Development, 62*, 1049-1065.

Leventhal, T. & Brooks-Gunn, J. (2000). The neighborhoods they live in: The effects of neighborhood residence on child and adolescent outcomes. *Psychological Bulletin, 126*, 309-337.

Marshall, N. L., Noonan, A. E., McCartney, K., Marx, F., & Keefe, N. (2001). It takes an urban village: Parenting networks of urban families. *Journal of Family Issues, 22*, 163-182.

Meece, J. L., Wigfield, A., & Eccles, J. S. (1990). Predictors of math anxiety and its influence on young adolescents' course enrollment intentions and performance in mathematics. *Journal of Educational Psychology, 82*, 60-70.

Midgley, C., Eccles, J. S., & Feldlaufer, H. (1991). Classroom environment and the transition to junior high school. In B. J. Fraser & H. J. Walberg (Eds.), *Educational Environments: Evaluation, antecedents and consequences* (pp. 113-139). Elmsford, NY: Pergamon Press.

Moncher, M. S., Schinke, S. P., & Barker, K. M. (1990). Self-efficacy of children and adolescents: A meta-analysis. *Psychological Reports, 66*, 1044-1046.

Oliver J. M., & Paull, J. C. (1995). Self-esteem and self-efficacy; perceived parenting and family climate; and depression in university students. *Journal of Clinical Psychology, 51*, 467-481.

Roeser, R. W., & Eccles, J. S. (1998). Adolescents' perceptions of middle school: Relation to longitudinal changes in academic and psychological adjustment. *Journal of Research on Adolescence, 8*, 123-158.

Roeser, R. W., Eccles, J. S, Freedman-Doan, C. (1999). Academic functioning and mental health in adolescence: Patterns, progressions, and routes from childhood. *Journal of Adolescent Research, 14*, 135-174.

Roeser, R. W., Eccles, J. S., Sameroff, A. J. (2000). School as a context of early adolescents' academic and social-emotional development: A summary of research findings. *The Elementary School Journal, 100*, 444-471.

Scales, P. C., Benson, P. L., Leffert, N., & Blyth, D. A. (2000). Contribution of developmental assets to the prediction of thriving among adolescents. *Applied Developmental Science, 4*, 27-46.

Shelton, K. K., Frick, P. J., & Wootton, J. (1996). Assessment of parenting practices in families of elementary school-age children. *Journal of Clinical Child Psychology, 25,* 317-329.

Sherer, M., & Adams, C. H. (1983). Construct validation of the Self-efficacy Scale. *Psychological Reports, 53,* 899-902.

Sherer, M., Maddux, J. E., Mercandante, B., Prentice-Dunn, S., Jacobs, B., & Rogers, R. W. (1982). The Self-efficacy Scale: Construction and validation. *Psychological Reports, 51,* 663-671.

Simons, R. L., & Johnson, C. (1996). The impact of marital and social network support on quality of parenting. In G. R. Pierce, B. R. Sarason, & I. G. Sarason (Eds.), *Handbook of Social Support and the Family.* (pp. 269-287). Plenum Press: New York.

Steinberg, L. (2001). We know some things: Parent-adolescent relationships in retrospect and prospect. *Journal of Research on Adolescence, 11,* 1-19.

Steinberg, L. (1987). Single parents, stepparents, and the susceptibility of adolescents to antisocial peer pressure. *Child Development, 58,* 269-275.

Steinberg, L., Mounts, N. S., Lamborn, S. D., & Dornbush, S. M. (1991). Authoritative parenting and adolescent adjustment across varied ecological niches. *Journal of Research on Adolescence, 1,* 19-36.

Steinberg, L., Darling, N., Fletcher, A. C., Brown, B. B., & Dornbusch, S. M. (1995). Authoritative parenting and adolescent adjustment: An ecological journey. In P. Moen, G. Elder, Jr., & K. Lüscher (Eds.), *Examining Lives in Context: Perspectives on the Ecology of Human Development* (pp. 423-466). Washington, DC: American Psychological Association.

Steinberg, L., Lamborn, S. D., Dornbusch, S. M., Darling, N. (1992). Impact of parenting practices on adolescent achievement: Authoritative parenting, school involvement, and encouragement to succeed. *Child Development, 63,* 1266-1281.

Teachman, J., & Crowder, K. (2002). Multilevel models in family research: Some conceptual and methodological issues. *Journal of Marriage and Family, 64,* 280-294.

Wentzel, K. R. (2002). Are effective teachers like good Parents? Teaching styles and student adjustment in early adolescence. *Child Development, 73,* 287-301.

Whitbeck, L. B., Simons, R. L., Conger, R. D., Wickrama, K. A. S., Ackley, K. A., & Elder, G. H. (1997). The effects of parents' working conditions and family economic hardship on parenting behaviors and children's self-efficacy. *Social Psychology Quarterly, 60*, 291-303.

White, L., & Gilbreth, J. G. (2001). When children have two fathers: Effects of relationships with stepfathers and noncustodial fathers on adolescent outcomes. *Journal of Marriage and the Family, 63*, 155-167.

Wigfield, A., & Eccles, J. S. (1994). Children's competence beliefs, achievement values, and general self-esteem: Change across elementary and middle school. *Journal of Early Adolescence, 14*, 107-138.

Youniss, J. (1994). Rearing children for society. In W. Damon (Ed.), *New Directions for Child Development No. 66*. San Francisco: Jossey-Bass.

Zimmerman, B. J., & Martinez-Pons, M. (1990). Student differences in self-regulated learning. *Journal of Educational Psychology, 82*, 51-59.

Appendix A

Representative Letter for Parents

Dear Parents,

I would like to invite your child to participate in the **"I think I can!"** project, a study I am conducting with the participation of the Greater Victoria School Board. As a graduate student in psychology, I am interested in learning more about the pathways that lead to positive youth development. I am conducting this study as part of the requirements for my Masters degree at the University of Victoria, under the supervision of Dr. Catherine Costigan.

Detailed information about the project is listed in the attached informed consent agreement. Briefly, this is what the project involves:

- **Goal:** To learn about how youth between the ages of 9 and 11 develop feelings of competence. I am especially interested in learning how parents and teachers work together to help youth develop a sense that they are capable individuals.

  What is involved? A questionnaire package will be sent home with your child. In the package, there will be a short questionnaire for you and one for your child to complete. Just fill out the questionnaires and return them to your child's school by **(date).**

  Do they have to do it? No! Participation is absolutely voluntary. Your child's participation is in no way tied to his/her school grades, so there is no obligation to take part.

Here are some examples of questions your child will be asked:

- How often do your parents have a friendly talk with you?
- How often can you depend on your teacher to help you out when you have a personal problem?
- Who decides what hairstyle you wear or haircut you get?
- How often are students' ideas and suggestions used during classroom discussions?
- How sure are you that you will manage well when you do something for the first time?

Privacy: All questionnaires are completely *anonymous*. No names will appear on any of the questionnaires; they will only be identified by a code number. We are not interested in any one student's responses, but rather responses of groups of students.

What will we get out of this? Although there are no *direct* benefits for you, your participation in this study will help us to learn more about youth development. In addition, I will enter the names of all students who participate into a draw to win one of 3 pairs of movie passes.

Please read the enclosed consent form. If you agree to allow your child to participate, **please sign and return both the attached consent form by (date). Without this signed consent form, your child will not be allowed to participate.**

If you have any questions or concerns about this project, please feel free to contact me at the University at 472-4695, or send me an email at dpdokis@uvic.ca.

Appendix B

Informed Consent Agreement for Parents

You are being invited to participate in a study entitled the "I Think I Can!" Project that is being conducted by Daphné Dokis. I am a graduate student in the department of Psychology at the University of Victoria and you may contact me if you have further questions by telephoning me at 472-4695, or email at dpdokis@uvic.ca.

As a graduate student, I am conducting this research as part of the requirements for a Masters degree in Clinical Psychology. It is being conducted under the supervision of Dr. Catherine Costigan. You may contact my supervisor at 721-7529 or by email at costigan@uvic.ca.

Purpose and Goals of the Project

The purpose of this research project is to look at the ways both parents and teachers can contribute to youths' feelings of competence.

Research of this type is important because many researchers have looked at how parents **or** other adults help children develop into healthy youths. However, we know little about how parents **and** other adults work together to encourage healthy development.

Your child is being asked to participate in this study because he/she is in Grade 4 or 5, and attends a school in the Greater Victoria School District.

What is involved?

If you voluntarily agree to allow your child to participate in this research, your child will be asked to complete a questionnaire. **Youth** will be asked questions about the adults they interact with outside of the home. Next, they will be asked about the nature of their relationship with you and their teacher, as well as the types of decisions they are allowed to make at home and at school. Finally, they will be asked some questions about how they see themselves. **You** will be asked to complete a short questionnaire for background information, and another about your thoughts on your child's sense of competence.

There are no known or anticipated risks to your child by participating in this research.

What will we get out of participating?

Researchers have been able to learn a lot about successful youth development in the past decade, but we still have a lot to learn. Your child's participation will help us expand our

knowledge of youth development. To thank your child for taking the time to complete the questionnaire, I will enter all students' names into a draw for one of 3 pairs of movie passes. It is important for you to know that it is unethical for me to offer excessive compensation to participants, and that compensation should not be seen as coercive. Therefore, if you are only allowing your child to participate to get a prize, then you should decline.

Participation is VOLUNTARY

Your participation in this research must be completely voluntary. Even if you agree to let your child participate, he or she can still choose NOT to take part in this project. If any youth decides that they do not want to participate, they can choose not to return the questionnaires to school.

What if I change my mind?

If you decide to allow your child to participate, and your child agrees, you can always change your mind. You (or your child) do not need to tell us why you do not want to participate, and your child will not suffer any consequences for not participating. If your child decides to withdraw from the study during the completion of the questionnaires, then just discard them and do not return them to the school. However, if either you or your child withdraws your consent after that, there is no way to identify their data for removal, and so it will still be included in the analyses.

Your participation will be ANONYMOUS and CONFIDENTIAL

Your child's name will never appear on his/her completed questionnaires. We are not interested in any one individual's responses to the questions, so results will only be reported in group form.

All completed questionnaires will be kept in a locked filing cabinet in the researcher's office.

What will happen to the questionnaires when the project is over?

It is common practice to keep questionnaires on file for a period of time after a project is completed. For this project, questionnaires and electronic data files will be kept for **5 years** after the study is completed. After this time, questionnaires will be shredded and data files will be erased.

What will you do with the results?

When all the questionnaires are collected, the results will be shared with others in several ways. Results will also be shared with others through presentations made at scholarly meetings and through published articles. If you are interested in learning about the results of this study, please include your address on this consent form, and a summary of the project will be sent to you. This form will be kept separately from the questionnaire responses

Where can I get more information?

If you have any questions about this project, you can contact me or my supervisor at the phone numbers and email addresses listed above.

You can also verify that this study has received ethical approval, or raise any concerns you might have, by contacting the Associate Vice-President, Research at the University of Victoria (250-472-4632).

Your signature below indicates that you understand the above conditions of participation in this study and that you have had the opportunity to have your questions answered by the researchers.

_____	_____	_____
Name of Participant	*Signature*	*Date*

If you would like to learn the results of the study please include your mailing address below:

_____

_____

_____

Please return the signed consent form with your child by WEDNESDAY, MAY 21st, 2003.

Appendix C

Informed Consent Agreement for Adolescents

You are being invited to participate in the **"I THINK I CAN!" PROJECT**, which is being conducted by Daphné Dokis. Daphné is a graduate student in the department of Psychology at the University of Victoria and you can contact her with any questions you might have at 472-4695, or email dpdokis@uvic.ca. I am doing this research as part of a Masters degree in Clinical Psychology. I am doing this study under the supervision of Dr. Catherine Costigan. You can contact her at 721-7529 or email her at costigan@uvic.ca.

Purpose and Goals of the Project

The purpose of this research project is to look at the ways both parents and teachers can help youth develop a sense of themselves as capable people.
Research like this is important because we know a lot about how **either** parents **or** other adults help kids develop into healthy youth. But, we don't yet know a lot about how parents and other adults work **together**. By taking part in this research, you are helping us to learn more about how this process works.
You are being asked to take part in this study because you are in grade 4 or 5, enrolled in a school in the Greater Victoria School District, and your parent or guardian has agreed that it's okay for you to participate.

What is involved and what will I get out of it?

If you voluntarily agree take part in the study you will be asked to fill out a questionnaire booklet. You will be asked to talk about the adults you spend time with outside of home, what your relationships are like with your parents and teacher, how much you are allowed to decide on things at home and at school, and how well you think you can do a variety of tasks. We do not think there are any risks for your participation in this project.
As a thank you for taking part, I will enter students' names in a draw for one of 3 pairs of movie passes. But, it's important for you to know that it's wrong for me to give too big a

reward for participating in the project, because people should not feel pressured to take part in the study. So, that means if you are only doing this so you can win a prize, then you probably shouldn't take part in the study.

Participation is VOLUNTARY

Your participation in this research must be completely voluntary. Even if your parent or guardian says it's okay for you to participate, you can still say no. If you choose not to take part, then just throw out the questionnaire. Let me reassure you that there will be no effect on your school grades if you don't want to take part.

What if I change my mind?

You can always change your mind. If you answer a few questions, and don't want to finish it, just throw the questionnaire out. But, if you have already handed in your questionnaire booklet, there really is no way for the researcher to tell which questions are yours, so they will be used anyway. You do not have to give a reason for stopping, and there will be no negative consequences for changing your mind.

Your participation will be ANONYMOUS and CONFIDENTIAL

Don't put your name on your questionnaires! You will be asked to answer two questions that might seem a little weird to match up your answers to your parents'. No one will be able to tell which answer you gave for which question. I am only interested in learning how youth *as a group* would answer.

At the beginning of the study, I will ask your parent for your name and address, so I can share with you the results of the study, and so I know where to send the gift certificates when I draw the winners. This information will be kept in a locked filing cabinet. Your questionnaires will also be kept in another locked filing cabinet so that no one will see your questionnaires, except for my supervisor and me.

What will happen to the questionnaires when the project is over?

It's pretty common for researchers to hold onto questionnaires and computer data after a study is over for a certain amount of time. I will keep your questionnaires for **5 years** after the study is over, and then I will shred the questionnaires and erase the computer files.

What will you do with the results?

When all the questionnaires are collected, the results will be shared with others in several ways. A summary of the results will be sent you and your parents. Results will also be shared with others through presentations made at scholarly meetings and through published articles.

Where can I get more information?

If you have any questions about this project, you can contact me (or my supervisor) at the phone numbers and email addresses listed above. Remember, you can call me with *any* questions at all!

You can also check on the ethical approval of this project, or raise any concerns you might have, by contacting the Associate Vice-President, Research at the University of Victoria (250-472-4632).

Your signature below shows that you understand the conditions of participation in this study. It also means that you have had the chance to have your questions answered by the researchers.

_____	_____	_____
Print your Name Here	*Signature*	*Date*

You get to keep a copy of this consent form, and one will go with the researcher.

Teens often spend time with adults other than their parents – like teachers. I'd like you to answer some questions about the adults that you interact with besides your parents.
Think about the adults **outside** of your immediate family that **you spend a lot of time with**. I'm going to ask you to answer some questions about these adults.

In the table below, please fill in the following information:
Let's make a list of the adults you spend a lot of time with, who are **NOT** a part of your family, and then

I'd like to know:

a) How you know them
b) How much time you spend together
c) What kinds of things you do together
d) If they make a difference in your life – is it **GOOD, BAD, or NEITHER**?
e) If they make a difference, **HOW** they make a difference.

If there are adults you spend time with that your parents **do not know well** put a star beside their initials.

Adults I spend time with (initials)	How I know them	Amount of Time	What we do...	Good/Bad/ Neither?	Do they make a difference? How?
CF	Soccer coach	2x a week for 1 hour	Soccer practice and games	Neither	
DK*	Best friend's mom	About a half hour nearly every day	Have dinner, drive places, talk	Good!	She's a good listener and gives me good advice
MM*	Math Tutor	2x a week for 1½ hours	School lessons	Bad	Teaches me a lot, but is hard to get along with

Appendix E

Parental Psychological Control Questionnaire

For each question, please tell me **how often** your mom behaved this way in the **past month**.

Never	Almost Never	Not often	Some of the time	Fairly often	Almost Always	Always
1	2	3	4	5	6	7

How often did your mom (dad):

1. criticize you or your ideas?	1	2	3	4	5	6	7
2. try to make you feel guilty?	1	2	3	4	5	6	7
3. ignore you when you tried to talk to her or him?	1	2	3	4	5	6	7
4. threaten to do something that would upset you if you didn't do what he or she wanted?	1	2	3	4	5	6	7
5. say you made him or her unhappy?	1	2	3	4	5	6	7
6. get into a fight or argument with you?	1	2	3	4	5	6	7
7. cry, whine or nag to get his or her way?	1	2	3	4	5	6	7
8. criticize your ideas for how to solve a problem?	1	2	3	4	5	6	7
9. insist that you agree to his or her solution to a problem?	1	2	3	4	5	6	7

Appendix F

Teacher Psychological Control Questionnaire

For each question, please tell me **how often** your teacher have behaved this way in the **past month**:

Never	Almost Never	Not often	Some of the time	Fairly often	Almost Always	Always
1	2	3	4	5	6	7

How often did your teacher…

1. criticize you or your ideas?	1	2	3	4	5	6	7
2. try to make you feel guilty?	1	2	3	4	5	6	7
3. ignore you when you tried to talk to her or him?	1	2	3	4	5	6	7
4. threaten to do something that would upset you if you didn't do what he or she wanted?	1	2	3	4	5	6	7
5. say you made him or her unhappy?	1	2	3	4	5	6	7
6. get into a fight or argument with you?	1	2	3	4	5	6	7
7. cry, whine or nag to get his or her way?	1	2	3	4	5	6	7
8. criticize your ideas for how to solve a problem?	1	2	3	4	5	6	7
9. insist that you agree to his or her solution to a problem?	1	2	3	4	5	6	7

Appendix G

Parental Warmth Questionnaire

Please circle the number that *best* matches **how often** your mom (dad) **typically** do each of the following with you.

Never	**Not Often**	**Some of the time**	**Often**	**Always**
1	2	3	4	5

1. How often do your parents have a friendly talk with you?	1	2	3	4	5
2. How often do your parents volunteer to help with special activities that you are involved in (e.g. sports, Boy/Girl Scouts, church youth groups)?	1	2	3	4	5
3. How often do your parents play games or do other fun things with you?	1	2	3	4	5
4. How often do your parents ask you about your day in school?	1	2	3	4	5
5. How often do your parents help you with your homework?	1	2	3	4	5
6. How often do your parents ask you what your plans are for the coming day?	1	2	3	4	5
7. How often do your parents talk to you about your friends?	1	2	3	4	5
8. How often do your parents drive you to a special activity?	1	2	3	4	5
9. How often do your parents let you help plan family activities?	1	2	3	4	5
10. How often do your parents attend parent/teacher conferences or other meetings at your school?	1	2	3	4	5
11. How often do your parents let you know when you are doing a good job with something?	1	2	3	4	5
12. How often do your parents reward or give you something extra for obeying them or behaving well?	1	2	3	4	5
13. How often do your parents praise you if you behave well?	1	2	3	4	5

14. How often do your parents hug or kiss you when you have done something well?	1	2	3	4	5
15. How often do your parents tell you that they like it when you help around the house?	1	2	3	4	5
16. How often do your parents compliment you when you do something well?	1	2	3	4	5

Appendix H

Teacher Warmth Questionnaire

Please circle the number that *best* matches **how often** your teacher **typically** does each of the following with you.

Never	**Not Often**	**Some of the time**	**Often**	**Always**
1	2	3	4	5

1. How often does your teacher have a friendly talk with you?	1	2	3	4	5
2. How often does your teacher volunteer to help with special activities that you are involved in (e.g. sports, Boy/Girl Scouts, church youth groups)?	1	2	3	4	5
3. How often does your teacher play games or do other fun things with you?	1	2	3	4	5
4. How often does your teacher ask you about your day in school?	1	2	3	4	5
5. How often does your teacher help you with your homework?	1	2	3	4	5
6. How often does your teacher ask you what your plans are for the coming day?	1	2	3	4	5
7. How often does your teacher talk to you about your friends?	1	2	3	4	5
8. How often does your teacher let you help plan classroom activities?	1	2	3	4	5
9. How often does your teacher let you know when you are doing a good job with something?	1	2	3	4	5
10. How often does your teacher reward or give you something extra for obeying them or behaving well?	1	2	3	4	5

11. How often does your teacher praise you if you behave well?	1	2	3	4	5
12. How often does your teacher tell you that they like it when you help out in the classroom?	1	2	3	4	5
13. How often does your teacher compliment you when you do something well?	1	2	3	4	5
14. How often can you depend on your teacher to help you out when you have a personal or social problem?	1	2	3	4	5

Appendix I

Parental Decision-Making Questionnaire

Who decides about the following issues in your house? Please circle the best number for each item.

I Decide	**Mom Decides**	**Dad Decides**	**Either mom or dad decides**	**We decide together**
1	2	3	4	5

1. What hairstyle you wear or haircut you get.	1	2	3	4	5
2. Whether you are too sick to attend school.	1	2	3	4	5
3. How much time you spend on homework.	1	2	3	4	5
4. When you have to do your homework.	1	2	3	4	5
5. What clothes to buy.	1	2	3	4	5
6. How much TV you watch.	1	2	3	4	5
7. What time you have to be home for dinner.	1	2	3	4	5
8. When you can begin dating.	1	2	3	4	5
9. Whether you have to be home for dinner.	1	2	3	4	5
10. Which TV shows, videos, or movies you watch.	1	2	3	4	5
11. What sorts of clothes you wear to school.	1	2	3	4	5
12. How to spend your money.	1	2	3	4	5
13. Which friends to spend time with.	1	2	3	4	5
14. What time you have to go to sleep on school nights.	1	2	3	4	5
15. How you spend your time after school.	1	2	3	4	5
16. Whether you tell your parents where you are when you go out.	1	2	3	4	5
17. Whether you can have friends over when your parents aren't home.	1	2	3	4	5

Appendix J

Classroom Decision-Making Questionnaire

Who decides about the following issues in your class? Please circle the best number for each item.

Never	**Not Often**	**Some of the time**	**Most of the time**	**Always**
1	2	3	4	5

1. How often are students encouraged to do projects of their own choosing?	1	2	3	4	5
2. How often are students involved in making decisions that affect them?	1	2	3	4	5
3. How often are students' ideas and suggestions used during classroom discussions?	1	2	3	4	5
4. How often are students allowed to choose their partners for group work?	1	2	3	4	5
5. How often do students get to decide where they sit?	1	2	3	4	5

Appendix K

Adolescent Self-Efficacy Questionnaire

Please circle the number that best represents *how sure* you feel about your ability to do each of the following:

Not at all sure	**Mostly unsure**	**Somewhat sure**	**Mostly sure**	**Very Sure**
1	2	3	4	5

1. How sure are you that you will manage well when you meet a person for the first time?	1	2	3	4	5
2. How sure are you that you will manage well when you do something for the first time?	1	2	3	4	5
3. How sure are you that you will manage well when you go to a place you don't know anything about?	1	2	3	4	5
4. How sure are you that you will manage well when you travel to a new place by yourself?	1	2	3	4	5
5. How sure are you that you will manage well when you give a talk in class?	1	2	3	4	5
6. How sure are you that you will manage well when you have a problem with a friend?	1	2	3	4	5
7. How sure are you that you will manage well when you have new work to do at school?	1	2	3	4	5
8. How sure are you that you will manage well when you have to get something right?	1	2	3	4	5
9. How sure are you that you will manage well when you have to figure something out by yourself?	1	2	3	4	5
10. How sure are you that you will manage well when you do things people expect you to do?	1	2	3	4	5
11. How sure are you that you will manage well when you make	1	2	3	4	5

an important decision?					
12. How sure are you that you will manage well when you have a problem at school?	1	2	3	4	5
13. How sure are you that you will manage well when someone counts on you to do something important?	1	2	3	4	5
14. How sure are you that you will manage well when things are going wrong?	1	2	3	4	5
15. How sure are you that you will manage well when you feel very unhappy?	1	2	3	4	5
16. How sure are you that you will manage well when you lose something important?	1	2	3	4	5
17. How sure are you that you will manage well when you have done something wrong?	1	2	3	4	5
18. How sure are you that you will manage well when you have a problem with your mother?	1	2	3	4	5
19. How sure are you that you will manage well when you have a problem with your father?	1	2	3	4	5
20. How sure are you that you will manage well when you become older?	1	2	3	4	5

Appendix L

Children's Competence Scale

This next questionnaire is designed to help us get a better understanding of the kinds of things that are difficult for students.

Please rate how well **YOU** can do the things described below by circling the appropriate number.

Not well at all		**Not too well**		**Pretty Well**		**Very Well**
1	2	3	4	5	6	7

1. How well can you get teachers to help you when you get stuck on schoolwork?	1	2	3	4	5	6	7
2. How well can you get another student to help you when you get stuck on schoolwork?	1	2	3	4	5	6	7
3. How well can you get adults to help you when you have social problems?	1	2	3	4	5	6	7
4. How well can you get a friend to help you when you have social problems?	1	2	3	4	5	6	7
5. How well can you finish your homework assignments by deadlines?	1	2	3	4	5	6	7
6. How well can you study when there are other interesting things to do?	1	2	3	4	5	6	7
7. How well can you concentrate on school subjects?	1	2	3	4	5	6	7
8. How well can you take class notes of class instruction?	1	2	3	4	5	6	7
9. How well can you use the library to get information for class assignments?	1	2	3	4	5	6	7

10. How well can you plan your school work?	1	2	3	4	5	6	7
11. How well can you organize your school work?	1	2	3	4	5	6	7
12. How well can you remember information presented in class and textbooks?	1	2	3	4	5	6	7
13. How well can you motivate yourself to do school work?	1	2	3	4	5	6	7
14. How well can you arrange a place to study without distractions?	1	2	3	4	5	6	7
15. How well can you participate in class discussions?	1	2	3	4	5	6	7
16. How well can you make and keep friends of the opposite sex?	1	2	3	4	5	6	7
17. How well can you make and keep friends of the same sex?	1	2	3	4	5	6	7
18. How well can you carry on conversations with others?	1	2	3	4	5	6	7
19. How well can you work in a group?	1	2	3	4	5	6	7
20. How well can you express your opinions when other classmates disagree with you?	1	2	3	4	5	6	7
21. How well can you stand up for yourself when you feel you are being treated unfairly?	1	2	3	4	5	6	7
22. How well can you deal with situations where others are annoying you or hurting your feelings?	1	2	3	4	5	6	7
23. How well can you stand firm to someone who is asking you to do something unreasonable or inconvenient?	1	2	3	4	5	6	7
24. How well can you get your parents to help you with a problem?	1	2	3	4	5	6	7

25. How well can you get your brother(s) and sister(s) to help you with a problem?	1	2	3	4	5	6	7
26. How well can you get your parents to take part in school activities?	1	2	3	4	5	6	7
27. How well can you get people outside the school to take an interest in your school(for example, community groups, churches)?	1	2	3	4	5	6	7

Footnote

1. The 52 youth in the sample reported on 22 different teachers. Youth recruited from the summer camp program reported on their individual teachers (i.e., one per youth), whereas groups of youth recruited from the same classroom reported on the same teacher. This mixed design is potentially problematic, in that there is non-independence of error terms for youth reporting on the same teacher. When variances within groups are not accounted for in the regression model, there is the possibility of underestimating error terms, and this can lead to a greater risk of committing Type I error (Teachman & Crowder, 2002).

Although there are a number of ways to handle this type of problem, the majority of these solutions require large sample sizes. For instance, hierarchical linear modeling (HLM) was designed to specifically address the issue of handling individual variables that are 'nested' within a larger context. Teachman and Crowder (2002) suggest that when the contexts under examination consist of only small numbers of individuals there may not be enough within-context variance to make such an analysis worthwhile. Unfortunately, that is the case in this sample. Further, the present sample does not represent a truly nested model because of the significant number of youth in the summer camp sample who did not share the same teacher.

To address this issue in the present study, the regression analyses were adjusted in order to minimize any within-classroom effects. The residuals for each of the teacher warmth, control and decision-making variables were computed for each individual teacher in order to partial out the within-classroom effects. These residuals were subsequently used in the regression analysis as the indicators of warmth, control and

decision-making. Results from these analyses were similar to those conducted using the unpartialled variables. Therefore, for ease of presentation and interpretation, the regressions conducted using the unadjusted teacher predictors are discussed.