

INFORMATION TO USERS

This manuscript has been reproduced from the microfilm master. UMI films the text directly from the original or copy submitted. Thus, some thesis and dissertation copies are in typewriter face, while others may be from any type of computer printer.

The quality of this reproduction is dependent upon the quality of the copy submitted. Broken or indistinct print, colored or poor quality illustrations and photographs, print bleedthrough, substandard margins, and improper alignment can adversely affect reproduction.

In the unlikely event that the author did not send UMI a complete manuscript and there are missing pages, these will be noted. Also, if unauthorized copyright material had to be removed, a note will indicate the deletion.

Oversize materials (e.g., maps, drawings, charts) are reproduced by sectioning the original, beginning at the upper left-hand corner and continuing from left to right in equal sections with small overlaps.

**ProQuest Information and Learning
300 North Zeeb Road, Ann Arbor, MI 48106-1346 USA
800-521-0600**

UMI[®]



Université d'Ottawa • University of Ottawa

A Typology of Children's Friendship Motivation

Jacques F. Richard, M.A.Ps.

School of Psychology

University of Ottawa

**A thesis submitted to the School of Graduate Studies and Research of the University of
Ottawa as partial fulfilment of the requirements for the degree of Doctor of Philosophy
(Clinical Psychology)**

© Jacques F. Richard, Ottawa, Canada, 2002



**National Library
of Canada**

**Acquisitions and
Bibliographic Services**

**395 Wellington Street
Ottawa ON K1A 0N4
Canada**

**Bibliothèque nationale
du Canada**

**Acquisitions et
services bibliographiques**

**395, rue Wellington
Ottawa ON K1A 0N4
Canada**

Your file Votre référence

Our file Notre référence

The author has granted a non-exclusive licence allowing the National Library of Canada to reproduce, loan, distribute or sell copies of this thesis in microform, paper or electronic formats.

L'auteur a accordé une licence non exclusive permettant à la Bibliothèque nationale du Canada de reproduire, prêter, distribuer ou vendre des copies de cette thèse sous la forme de microfiche/film, de reproduction sur papier ou sur format électronique.

The author retains ownership of the copyright in this thesis. Neither the thesis nor substantial extracts from it may be printed or otherwise reproduced without the author's permission.

L'auteur conserve la propriété du droit d'auteur qui protège cette thèse. Ni la thèse ni des extraits substantiels de celle-ci ne doivent être imprimés ou autrement reproduits sans son autorisation.

0-612-76461-3

Canada

ACKNOWLEDGEMENTS

This work represents the culmination of a long and arduous, but also rewarding and enriching, journey. Luckily, many important and wonderful people were prepared to walk (sometimes run!) by my side during this journey. Their presence, more than anything else, made it all worth while.

First of all, I wish to express my gratitude to Barry Schneider, Ph.D., who agreed to supervise my work. His knowledge, incredible writing skills, advice, sense of humour, pragmatism, and willingness to answer email around the clock and from around the globe were indispensable to my success in graduate school. Thanks for everything Barry.

Next, I send thanks to Robert Coplan, Ph.D., Luc Pelletier, Ph.D., Alastair Younger, Ph.D., and Robert Vallerand, Ph.D. (UQAM) for their thoughtful advice as members of my dissertation committee. The present manuscript has been considerably improved as a result of their insightful comments throughout the whole research process. Special thanks to Dr. Pelletier for his help during the construction of the Friendship Motivation Scale for Children.

Merci à la “gang” en psycho pour le support moral et social. Votre présence, Mélanie (ma première et meilleure amie au doctorat), Richard, Olena, Micheline, Danitka, Paul, Anik et les autres lors de nos “quelques” soirées sociales a beaucoup contribué à soulager l’anxiété générée par les exigences du diplôme. Tel qu’en témoigne le présent document, l’amitié est très importante à mes yeux. J’espère ne jamais perdre la vôtre.

Finalement, je désire remercier les personnes les plus importantes dans ma vie : les membres de ma famille. Merci, Léon et Collette, Luc et Annette, François et Joline, d'être toujours là pour moi. Votre présence compte beaucoup pour moi. Merci également à toi, maman, je te sens toujours présente... Et enfin, à ma nouvelle famille, Geneviève, toi qui continue d'être une épouse formidable, ma meilleure amie et ma plus importante source de soutien tout au long de mon doctorat, ainsi que Tristan, toi qui réussi si facilement à combler mes journées de bonheur et à redéfinir le sens de ma vie. Je vous aime.

ABSTRACT

In this study, correlates of children's motivation to form friendships are examined using the Friendship Motivation Scale for Children (FMSC), a new scale designed to assess the motivational dimensions that contribute to children's desire for friendships. Specifically, the FMSC consists of four subscales that measure intrinsic motivation, two forms of regulation for extrinsic motivation (identified and external), and amotivation. The results, obtained with a sample of 490 fifth-, sixth-, and seventh-grade boys and girls, confirmed the factor structure of the scale for both genders and revealed adequate reliability (i.e., internal consistency and test-retest stability). Construct validity of the scale was demonstrated by (a) correlations among the four subscales displaying a simplex pattern, and thus supporting the underlying theoretical model (i.e., self-determination continuum), (b) positive correlations between subscales situated at the high end of the self-determination continuum (i.e., intrinsic motivation and identified regulation) and a relationship-maintaining goal, positive correlations between subscales situated at the low end of the self-determination continuum (i.e., external regulation and amotivation) and a revenge goal, and a positive correlation between external regulation and a control goal, (c) positive correlations between self-determined friendship motivation and items assessing the global importance of friendships, and (d) positive correlations between self-determination scores from members of friendship dyads. Furthermore, analyses revealed the existence of several correlates of children's friendship motivation. Children who were more self-determined in their motivation to form friendships were preferred by their peers, and they reported greater perceived social competence, a more internal locus of control of social experience,

greater social support from family members, best friend and teacher, and fewer feelings of loneliness and social dissatisfaction. Moreover, loneliness was partially predicted by the discrepancy between children's friendship motivation and presence or absence of a best friend. Finally, girls reported greater self-determined friendship motivation than boys, and gender differences were observed in the relationships between friendship motivation and some of its correlates (i.e., one item stating that friendship is more important than popularity, peer preference, number of reciprocated friends, and having a mutual best friend).

TABLE OF CONTENTS

	Page
Acknowledgments	ii
Abstract	iv
Table of Contents	vi
List of Tables	ix
List of Figures	x
List of Appendices	xi
CHAPTER I	
INTRODUCTION	1
<i>Children's Friendships</i>	1
<i>Friendship Motivation</i>	7
<i>Self-Determination Theory</i>	10
<i>Potential Correlates of Friendship Motivation</i>	15
<i>Goals and Hypotheses for the Present Study</i>	25
CHAPTER II	
METHOD	30
<i>Participants</i>	30
<i>Procedure</i>	30
<i>Measures</i>	31
<i>Friendship motivation</i>	31

<i>Social goals</i>	34
<i>Global importance of friendship</i>	36
<i>Perceived social competence</i>	36
<i>Social experience locus of control</i>	37
<i>Sociometric choice nominations</i>	37
<i>Network of relationships</i>	38
<i>Loneliness</i>	39

CHAPTER III

RESULTS	40
<i>Preliminary Analyses</i>	40
<i>Outliers</i>	40
<i>Normality</i>	40
<i>Linearity and homoscedasticity</i>	42
<i>Reliability</i>	42
<i>Internal consistency</i>	42
<i>Test-retest coefficients</i>	42
<i>Construct Validity</i>	44
<i>Confirmatory factor analyses</i>	44
<i>Tests of invariance</i>	47
<i>Correlations among the four subscales</i>	52
<i>Relation to social goals</i>	52
<i>Relation to global importance of friendships</i>	56

<i>Similarity on motivational subscales between friends</i>	56
<i>Correlates of Self-Determined Friendship Motivation</i>	57
<i>Grade and gender effects</i>	57
<i>Relation to perceived social competence and locus of control of</i> <i>social experience</i>	57
<i>Relation to peer preference and friendship status</i>	59
<i>Relation to quality of relationships with best friend, parents, favourite</i> <i>sibling, favourite relative, and teacher</i>	59
<i>Relation to loneliness and social dissatisfaction</i>	60
<i>Gender Differences</i>	61
<i>Multivariate Effects</i>	64
CHAPTER IV	
DISCUSSION	67
<i>Psychometric Properties of the FMSC</i>	67
<i>Correlates of Friendship Motivation</i>	71
<i>Limitations and Future Directions</i>	79
<i>Summary and Concluding Comments</i>	87
REFERENCES	88
APPENDICES.....	103

LIST OF TABLES

1. Factorial Structure of the FMSC (Preliminary Version)	33
2. Means, Standard Deviations, Skewness and Kurtosis Values for all Dependent Variables	41
3. Skewness and Kurtosis Values for all Transformed Variables.....	43
4. Summary Confirmatory Factor-Analytic Model Fit Statistics for the FMSC (both genders).....	46
5. Simultaneous tests for the invariance of the FMSC structure across gender..	50
6. Pearson Correlations (below the diagonal) and Phi values (above the diagonal) between the FMSC subscales (boys).....	53
7. Pearson Correlations (below the diagonal) and Phi values (above the diagonal) between the FMSC subscales (girls).....	54
8. Correlations between the four friendship motivation subscales, social goals, and items assessing the global importance of friendships.....	55
9. Descriptive Statistics for FMSC by Grade and Gender.....	58
10. Loneliness by self-determined friendship motivation and mutual best friendship.....	62
11. Standardized regression coefficients for gender, friendship motivation, and their interaction (independent variables) for each dependent variable.....	63

LIST OF FIGURES

- 1. Final confirmatory factor analytic model for the FMSC (boys).....48**
- 2. Final confirmatory factor analytic model for the FMSC (girls).....49**

LIST OF APPENDICES

A. INFORMATION LETTER SENT TO PARENTS.....	103
B. CONSENT FORM SENT TO PARENTS.....	105
C. CHILD ASSENT FORM.....	107
D. FRIENDSHIP MOTIVATION SCALE FOR CHILDREN.....	109
E. SOCIAL GOALS.....	112
F. PERCEIVED COMPETENCE SCALE FOR CHILDREN (FRENCH-CANADIAN VERSION).....	116
G. SOCIAL EXPERIENCE LOCUS OF CONTROL.....	122
H. NETWORK OF RELATIONSHIPS INVENTORY (FRENCH-CANADIAN VERSION).....	125
I. LONELINESS AND SOCIAL DISSATISFACTION QUESTIONNAIRE (FRENCH-CANADIAN VERSION).....	131
J. MULTIPLE REGRESSION ANALYSES.....	135

CHAPTER I

INTRODUCTION

Children's Friendships

Children's friendships are considered by many to play an important part in their social, cognitive, and emotional growth (Asher & Parker, 1989; Bukowski, Newcomb, & Hartup, 1996; Hartup, 1983; Newcomb & Bagwell, 1995; Schneider, 2000; Sullivan, 1953). According to Bukowski et al. (1996), most researchers agree that children's friendships are characterized by reciprocity (i.e., a mutual and freely-chosen relationship in which both members equally benefit), liking (i.e., wanting to spend more time with a friend than with a non-friend), affection, and pleasure (i.e., having fun). It is the reciprocity and egalitarian nature of a friendship that distinguishes it from virtually all other important relationships in a child's life (e.g., parents, teachers, relatives). Although a sibling relationship may sometimes most closely approximate a friendship on many of its features, it is not a freely-chosen relationship. Therefore, friendships are unique relationships in that they offer the child a relatively safe and equal interpersonal milieu in which to share and explore thoughts, feelings, hopes, fears, etc.

Harry Stack Sullivan (1953) was the first major personality theorist to emphasize the importance of friendships in a child's social development. He suggested the existence of a distinct developmental period that he called *pre-adolescence* (usually emerging between the ages of eight-and-a-half to ten years), the outset of which is defined by a

growing desire to form close, intimate relationships with one or more members of the peer group. According to Sullivan, this need for interpersonal intimacy is the mechanism that brings friends together, enabling them to validate each other's personal worth. Friends help each other out, *collaborate* as Sullivan would put it, in satisfying each other's needs. When such a collaboration is successful, the self-esteem of both children is usually enhanced. When such a collaboration is not attained (i.e., when a child does not succeed in forming a friendship), the pre-adolescent will likely experience *loneliness*. Indeed, Sullivan believed that loneliness results out of a failure to satisfy the need for interpersonal intimacy, and that the experience of loneliness is a powerful contributor to social behaviour. Thus, children who do not have the opportunity to be part of a friendship dyad during the pre-adolescent period, Sullivan contended, miss out on opportunities to enhance their sense of self-worth, to satisfy their need for interpersonal intimacy, and to practice collaboration skills that will be invaluable in the establishment of significant relationships throughout their lives.

Modern research has only begun to substantiate Sullivan's (1953) claim that friendships are important for a child's development and well-being. Relationships with friends have been shown to provide opportunities for children to acquire and develop important social and cognitive skills, such as cooperativeness, sharing, perspective taking, altruism, emotion regulation, and conflict management (see Newcomb & Bagwell, 1995, 1996, for reviews of relevant research). These skills help children maintain and enhance their friendships (Asher, Parker, & Walker, 1996), leading to a circle in which those who already have friends acquire greater skills in forming and maintaining friendships.

Specifically, Newcomb and Bagwell's (1995) meta-analysis revealed that although conflict is observed as often in friendship dyads than in non-friendship dyads, friends are more apt to seek a resolution to the conflict. This desire within friendship dyads to try to find solutions to conflicts offers the participating children invaluable practice in the area of conflict management and negotiation. Furthermore, children without friends generally have poorer social skills and social competence, are more isolated from their peers, and report lower perceived competence and self-worth (Newcomb & Bagwell, 1996). In addition, having a very close friend may further contribute to children's well-being, as evidenced by Parker and Asher's (1993b) finding that children with a best friend were less lonely than children without a best friend, regardless of their status within the peer group (i.e., their level of popularity among their peers).

Parker and Asher's (1993b) study, as well as the research reviewed by Newcomb and Bagwell (1996), are limited by both their correlational designs and by methodological challenges in the measurement of children's friendships. First, there is very limited evidence that having friends contributes to social competence rather than the other way around. Most research is correlational by design and cannot adequately address causal relationships. However, some studies have shown that the quality and stability of children's friendships are predictive of positive outcomes (Bagwell, Newcomb, & Bukowski, 1998; Ladd, 1990; Ladd, Kochenderfer, & Coleman, 1996). For example, Ladd et al. (1996) reported that kindergartener's perception of the quality of their relationships with friends significantly predicted school adjustment (i.e., more positive views of school, better performance, feeling happier in school, etc.) the following year. In Bagwell et al.'s

(1998) longitudinal study, children who had a mutual best friend in fifth grade showed significantly better family, school, and overall adjustment 12 years later. However, those children were also preferred by their peers, and peer preference appeared to account for more positive outcomes in early adulthood than friendship status. Nevertheless, depressive symptoms and general self-worth in adulthood were better predicted by friendship status than by peer preference. One longitudinal study (i.e., Berndt, 1996) failed to demonstrate that the quality of adolescents' friendships contributed to increased self-esteem, but did show that the frequency of conflicts with friends predicted disruptive behaviour at school.

Next, the examination of children's friendships is typically done by asking children to identify their friends out of the names located on a class roster. Two children are considered friends if they nominate each other (i.e., reciprocated friendship). The first problem with this methodology, as noted by Furman (1996), is that the dichotomous nature of friendship nominations (a particular child must be either a friend or not a friend) may not be sensitive enough to capture the full spectrum of children's experiences with friends. For instance, it is possible that two children consider themselves to be friends on some, but not all, occasions, or that a child with two reciprocated friends spends 95% of his or her time with one friend and 5% of his or her time with the other friend. In other words, friendship nominations do not assess variations in dimensions such as the quality of the friendship or the importance of the friendship for the respective children. Another limitation, as acknowledged by Parker and Asher (1993b), is that by restricting nominations to children within the same classroom some children may be misidentified as not having a friend despite having several friends in other classrooms, schools, or cities. Although the school

setting is an ideal milieu for the study of friendships, many children may have very significant friendships outside of the academic context. Finally, most researchers have typically restricted the number of possible friendship selections. Normally, children were asked to identify up to three friends. Having a limit on the number of friends that children are permitted to nominate entails, once again, that some children may be improperly labelled as not having any friends. For instance, a boy may belong to a large group of six friends, but might not be nominated by any of them if they are restricted to three choices each. Increasingly, researchers are allowing unlimited friendship nominations (e.g., Hoza, Bukowski, and Beery, 2000) with the hope of correctly identifying as many children as possible as either having a friend or not having any friends.

Friendships and friendship quality are also measured using direct observations (e.g., Gottman, 1983) and self-report questionnaires (e.g., Bukowski, Boivin, & Hoza, 1994). Despite the utility of these measures, they do have important limitations. When directly observing the interaction between friends, observers may affect the observed children's behaviours. In other words, children may behave differently than they would under normal circumstances. Self-report questionnaires are also limited because children may not be completely reliable in reporting their own behaviours or those of their friends (Furman, 1996; Schneider, 2000). They may also not have the vocabulary for describing aspects of friendships. These methodological limitations underscore the difficulty of attempting to study intimate aspects of children's lives. Despite their respective limitations, friendship nominations, direct observations, and self-report questionnaires continue to provide valuable information about the nature of children's friendships.

Overall, theory and research in children's social development suggest that having friends is at least related to, and possibly a precursor of, social, cognitive, and emotional adjustment. This suggests that children's friendships are worth investigating, especially given the increasing empirical evidence of the stability of most friendships. A typical finding is that about 75% of children's friendships, at least for children between the ages of two and ten, remain stable over a one year period (e.g., Schneider, Fonzi, Tani, & Tomada, 1997; Unger, 1991, cited in Howes, 1996). Unfortunately, not all children have friends. Parker and Asher (1993b) documented the prevalence of friendship within their sample of 881 third-, fourth-, and fifth-graders. They reported that 22.4% of children did not have any reciprocated friends and that 45.1 % of children did not have a reciprocated best friend. Children with and without friends may be equally desirous of forming friendships even though some are less successful in doing this because of various reasons (e.g., poor social skills, not exposed to many potential friends). However, it is also likely that some children value friendship more than others, that children develop friendships for different reasons, and that these individual differences in desire for friendship can help explain why some children have friends while others do not, and, perhaps, why some children are more lonely than others.

Thus, it is important to understand what motivates children to seek out relationships with potential friends, and what effect that motivation has on the quality of their friendships and on their ability to sustain those friendships. There is an important need in the friendship literature to expand on the notion of friendship motivation. As stated by Bukowski et al. (1996, p. 11), "there is no broad model for explaining why some children

are more desirous of friendship than are other children . . . its importance to the understanding of the features and effects of friendship for individual children cannot be underestimated.” Thus, many questions remain largely unanswered. Do all children want friends at least to some degree? Is having friends more important for some children than for others? Do children have different reasons for forming close, intimate bonds with other children? Is forming friendships for different reasons associated with different outcomes? And if so, what characterizes children who are more motivated than others to form friendships, especially those who are motivated because of the qualities of friendship itself, rather than the tangible external benefits that a friendship can bring? Greater knowledge about such issues would advance general understanding of the relative functions, features, and benefits of friendships for individual children. As pointed out in the following section, this topic has not received much attention from researchers investigating children’s peer relationships.

Friendship Motivation

In the adult literature, there has been considerable investigation of people’s motives for affiliation (Atkinson, Heyns, & Veroff, 1954) and intimacy (McAdams, 1980). Murray’s Thematic Apperception Test (Murray, 1943) has been the major tool. In typical studies, narrative replies to obscure picture cues were coded via content-analysis systems similar to those originally designed for the measurement of achievement motivation (e.g., McClelland, Atkinson, Clark, & Lowell, 1953). The concept of affiliation motivation has been used in various contexts and with different meanings ranging from sociability (i.e., a general preference for a wide network of social relationships) (Murray, 1938) to a more

specific desire for close, intimate social relationships (Baker, 1979). Intimacy motivation has been described as “a recurrent preference or readiness for warm, close and communicative exchange with others - an interpersonal interaction perceived as an end in itself rather than a means to another end (McAdams, 1985, p.87).” Accordingly, people who are highly motivated toward affiliation and intimacy may derive greater satisfaction from close relationships with their friends, and may try harder to enhance and maintain their friendships. There is some empirical confirmation of this with adults, although the evidence is limited. For instance, McAdams, Healy, and Krause (1984) found that university students who scored higher on intimacy motivation reported more self-disclosure and more listening during friendship interactions.

Drawing from past research on affiliation and intimacy motivation, McAdams and Losoff (1984) adapted the intimacy-motivation scoring system for the TAT to study children’s friendship motivation¹. The system was used to score elementary school children’s written responses to ambiguous pictures. Their coding system consisted of a content-analysis procedure that was based on the presence or absence of four possible content themes for each story. The four content themes were: (a) relationship produces positive affect, (b) relationship produces friendship or love, (c) dialogue, and (d) helping. According to the authors, the presence of these themes in children’s responses to ambiguous pictures was indicative of higher friendship motivation, which they defined as

¹ To my knowledge, this is the only published study to date that includes a measure of children’s friendship motivation.

“a *recurrent preference* (consistent desire or readiness) for having friends” (McAdams & Losoff, 1984, p. 13). They found that girls scored higher in friendship motivation than boys, and that children with greater friendship motivation also had greater friendship stability and more knowledge about their best friend. However, children with greater friendship motivation were not more likely to have friends than children with lower friendship motivation. Although the authors achieved good inter-coder reliability ($r = .87$), the results obtained using their projective methodology are difficult to interpret. As pointed out by the authors, the measure does not control for the possibility that children who have developed closer friendships have also acquired a friendship-related vocabulary that may be confounded with greater friendship motivation, especially when measured by projective techniques. Furthermore, they did not report evidence of the reliability of their measure, except for the previously mentioned inter-rater reliability. Therefore, their friendship motivation measure lacks reliability and construct validity, which underscores the necessity of developing a new measure for the study of children’s friendship motivation.

Because of the absence in the literature of a valid and reliable friendship motivation measure, I developed a friendship motivation scale for children for the purpose of this study. My main goal was to design a measure that would be sensitive to variability in children’s reasons for wanting to have friends. In other words, I wanted an instrument that would not only measure children’s desire for friendship or lack of it, but that would also tap into the underlying features of friendship that made it appealing to a given child. I found in Deci and Ryan’s (1985) self-determination theory a framework useful in measuring children’s reasons for wanting to form friendships.

Self-Determination Theory

Deci and Ryan's (1985) theory postulates that people's behaviours stem from various motives that differ in terms of the level of *self-determination* involved in the reasons for engaging in a particular behaviour, which the authors view as a basic, fundamental need. They contend that people have a natural, unlearned tendency towards personal growth, optimal social development, and well-being (Ryan & Deci, 2000). However, as discussed in the following paragraphs, this natural tendency towards self-motivation does not always manifest itself for all people and under all circumstances. Deci and Ryan (1985) hypothesize that the motives in self-determination theory form a continuum ranging from amotivation (i.e., an absence of self-determination) to intrinsic motivation (i.e., a high level of self-determination). Extrinsic motivation represents an intermediate level of self-determination and is presumed to be situated along the continuum, between amotivation and intrinsic motivation. According to self-determination theory (Deci & Ryan, 1985), people exhibiting intrinsically motivated behaviour display an internal locus of causality (i.e., *choosing* to engage in the activity for internal reasons, such as pleasure or mastery), whereas an external locus of causality (i.e., performing the activity because of some perceived external reasons or pressures) characterizes extrinsically motivated behaviour.

More specifically, *intrinsic motivation* consists of taking part in an activity for the inherent satisfaction and pleasure obtained from the activity itself. Ryan and Deci (2000, p.70) describe intrinsic motivation as a "natural inclination toward assimilation, mastery, spontaneous interest, and exploration", and they contend that this state is readily observable

in toddlers' spontaneous free play and exploration of their environments. Similarly, intrinsically motivated individuals engage in an activity out of individual choice and interest in the activity. Because they view intrinsic motivation as a natural, innate state, the authors have not attempted to identify external factors that induce intrinsic motivation, but have instead focussed on social and contextual variables that maintain or diminish it (Deci & Ryan, 1985; Ryan & Deci, 2000). They hypothesized that events fostering feelings of *competence*, *autonomy*, and *relatedness* (which they view as three fundamental psychological needs) would favour the expression of intrinsic motivation, whereas conditions that elicit feelings of incompetence, control by others, and isolation would undermine it.

Their research, and that of others, have largely supported their claim, especially regarding the positive effects of perceived competence and autonomy on intrinsic motivation. Ryan and Deci (2000) reviewed the results of many laboratory experiments and field studies showing that feelings of competence and autonomy led to both greater intrinsic motivation and greater internalization of extrinsic motivation (as discussed in the next paragraph). For example, they report studies in the educational domain that have demonstrated that "teachers who are autonomy supportive (in contrast to controlling) catalyze in their students greater intrinsic motivation, curiosity, and desire for challenge (Ryan & Deci, 2000, p. 71)." They also mention other studies that have shown this to be true for parents, sport coaches, and music instructors. Although studies investigating the links between feelings of relatedness and intrinsic motivation are scarce, they do describe a few studies that have demonstrated that children display low intrinsic motivation in the

presence of adults with whom they do not feel connected. Finally, a recent meta-analysis by Deci, Koestner, and Ryan (1999) revealed that intrinsic motivation is reliably diminished when a tangible reward is offered following performance at a given task. Deci and Ryan (2000) argue that the negative effects of rewards on intrinsic motivation can be explained by the participants reduced feelings of autonomy when performing in order to obtain an external benefit.

Despite the positive influences of feelings of competence, autonomy, and relatedness on intrinsic motivation, an individual will not be intrinsically motivated towards an activity unless the activity is intrinsically appealing because it is either new, challenging, or pleasant (Ryan & Deci, 2000). So what does motivate individuals to perform behaviours that are neither new, challenging, nor pleasant? The most common reason for engaging in an activity that is not intrinsically interesting is in order to gain something out of it. Behaviours that are manifested as a means to an end are fuelled by *extrinsic motivation*. Many readers are no doubt already familiar with the classical intrinsic/extrinsic motivation distinction. Self-determination theory expands the concept of extrinsic motivation by proposing that people often *internalize* values and behaviours that are not intrinsically appealing. Individuals who are extrinsically motivated towards an activity may perform the behaviours associated with that activity out of mere compliance with the demands of others (e.g., in order to gain a reward or avoid punishment). However, they may also take part in the activity because they value the benefits of the activity and are deeply committed to it. Therefore, self-determined motivation is synonymous with human agency and is manifested when an individual takes responsibility for his or her actions (Deci & Ryan,

1985). According to Ryan and Deci (2000), internalization is facilitated when behaviours that are not intrinsically appealing are adopted or modelled by significant others (relatedness), when the person feels capable of performing the behaviours (competence), and when there is no undue external coercion from others to engage in the activity (autonomy).

Deci, Ryan, and collaborators (e.g., Deci & Ryan, 1985; Ryan, Connell, & Grolnick, 1992) have suggested the existence of four different types of extrinsic motivation ranging from low to high levels of self-determination: (a) external regulation, (b) introjected regulation, (c) identified regulation, and (d) integrated regulation. *External regulation* consists of engaging in an activity purely because of external reasons, pressures in the environment, rewards, or to avoid punishment (e.g., having friends in order to be invited to parties). Behaviours that are motivated by *introjected regulation* result from external pressures that have been internalized, but that are not necessarily considered important by the individual. Therefore, they are not freely chosen or self-determined (e.g., having friends because it would be embarrassing not to have any). *Identified regulation* characterizes behaviours that are performed for extrinsic reasons because individuals view these reasons as important for them (e.g., choosing to have friends because it helps them attain personal goals). *Integrated regulation* is present when individuals have fully integrated into their self-concept the reason why they engage in an activity (e.g., choosing to have friends because it enables them to become a better person).

Finally, *amotivation* occurs when individuals are not motivated to engage in a particular activity because they do not recognize any links between their behaviours and

their consequences. Individuals who are amotivated generally feel incompetent and believe that they have no control over the possible outcomes, in a similar manner as in the concept of learned helplessness (Abramson, Seligman, & Teasdale, 1978). People may also be amotivated with regard to an activity because they do not consider the activity to be important or valuable (Ryan, 1995). Amotivation may eventually incite individuals to cease the activity (e.g., finding that it is a waste of time to have friends).

Self-determination theory has been empirically supported in many domains with adults, including motivation for sports and leisure activities (Pelletier, Fortier, Vallerand, Tuson, Brière, & Blais, 1995; Pelletier, Vallerand, Green-Demers, Blais, & Brière, 1995), education (Vallerand, Blais, Brière, & Pelletier, 1989) environmental behaviours (Pelletier, Tuson, Green-Demers, Noels, & Beaton, 1998), political values (Koestner, Losier, Vallerand, & Carducci, 1996; Losier, Perreault, Koestner, & Vallerand, 2001), and interpersonal relationships (Blais, Sabourin, Boucher, & Vallerand, 1990), as well as some domains with children, such as motivation for schoolwork (Connell & Ryan, 1986). Furthermore, many researchers have reported, as evidence of the validity of the self-determination continuum, that the correlations between the motivational dimensions located within the continuum form a simplex pattern (Guttman, 1969). A simplex pattern is observed when greater correlations are obtained between constructs hypothesized as being adjacent to one another along a continuum compared with correlations between constructs that are further apart along the continuum. Constructs located at the opposite poles of the continuum usually correlate negatively. Such a correlational pattern has been observed in self-determination research involving adult participants in several domains,

such as motivation toward sports (Pelletier et al., 1995), education (Vallerand et al., 1989), and interpersonal relationships (Blais et al., 1990).

As reported in Blais et al. (1990), motivation that is self-determined and freely chosen by the participant (such as intrinsic motivation) fosters positive affect, elevated levels of interest, greater spontaneity, more cognitive flexibility, better creativity, and longer persistence; all variables that can be expected to be meaningful for close relationships. The friendship motivation scale for children that was constructed for the purposes of this study assesses some of the motivation subtypes identified in Deci and Ryan's (1985) theory.

Potential Correlates of Friendship Motivation

Several factors may contribute to someone being more or less self-determined in his or her motivation, and different levels of self-determination may be associated with different outcomes. Research shows that self-determined behaviours are usually associated with positive psychological and behavioral variables, whereas non-self-determined behaviours are typically related to negative psychological and behavioral variables (see Deci & Ryan, 1985; Ryan & Deci, 2000 for reviews). Theoretically, this happens because self-determined individuals feel more autonomous, competent, and related to others (Ryan & Deci, 2000), which nurtures a sense of well-being. As previously mentioned, Deci and Ryan argue that intrinsic motivation and self-determined extrinsic motivation flourish when individuals satisfy their needs for competence, autonomy, and relatedness. Not only does the satisfaction of these three basic psychological needs lead to greater maintenance of intrinsic motivation, but it is also conducive to the internalization of values and behaviours

that hold no intrinsic appeal. Thus, in order to identify potential correlates of self-determined friendship motivation, I mostly examined variables that were likely to contribute to, or be influenced by, children's feelings of competence, autonomy, and relatedness. Specifically, I identified the following variables as potential correlates of children's friendship motivation: (a) gender, (b) perceived social competence, (c) locus of control in social situations, (d) quality of relationship with parents, siblings, grandparents and/or other relatives, teachers, best friends, and the larger peer group, (e) the goals children have during social interaction, (f) children's friendship status (i.e., having a best friend, having many friends), and (g) children's feelings of loneliness and social dissatisfaction.

According to Maccoby (1990), boys have a greater tendency to interact in larger groups, whereas girls' social interactions are typically characterised by close, intimate bonds with one or two other girls. Furthermore, girls' friendships have been shown to be marked by more self-disclosure and sharing of feelings and confidences than boys' friendships (e.g., Dolgin & Kim, 1994; Parker & Asher, 1993b). As discussed in Buhrmester (1996), the fundamental gender difference in children's friendships reported by Maccoby is that girls have greater *communal* needs (i.e., intimacy, interpersonal connectedness), whereas boys have greater *agentive* needs (i.e., autonomy, competence). Because of girls' higher need for intimacy and interpersonal connectedness, and greater tendency to self-disclose and share feelings with their friends, they may find participating in a close, intimate friendship more intrinsically interesting and rewarding. Should this be the case, it may be expected that girls are generally more self-determined in their reasons

for wanting to form friendships.

Other potential correlates of children's self-determined friendship motivation include perceived social competence and locus of control in social situations. Self-determined motivation is postulated as a fundamental need that stems partly from people's innate desire to be competent and to demonstrate mastery in a given activity. Accordingly, Deci and Ryan (1985) describe several studies, conducted both with children and adults, in which positive feedback was accompanied by increases in intrinsic motivation, whereas negative feedback resulted in decreases in intrinsic motivation. For example, in their study of preschool children's intrinsic motivation, Anderson, Manoogian, and Reznick (1976) observed that verbal praise that included statements about the preschoolers' competence for the activity led to greater intrinsic motivation for that group versus a no-feedback control group. Furthermore, Vallerand and Reid (1984) showed that the contributions of positive and negative feedback to intrinsic motivation were mediated by participants' perception of competence towards the activity. Children's perception of competence has also been shown to be related to greater intrinsic motivation and performance in school (Harter, 1982).

Locus of control (Rotter, 1966) should also be related to self-determined motivation. According to Ryan and Stiller (1991, p. 124), "belief that one can ... control outcomes ... is, indeed, essential to the motivation of any intentional behaviour." Self-determination theory proposes that amotivated behaviours largely result from the helplessness associated with the perception of not having any control in a particular situation (Deci & Ryan, 1985). In other words, an internal locus of control (i.e., perceiving

a link between one's behaviours and the outcome of a situation) should be linked to self-determined motivation and behaviours, whereas an external locus of control (i.e., believing that the outcomes of a situation are controlled by outside factors) should be related to non-self-determined motivation and behaviours. This hypothesis has been empirically supported in at least one domain: that of motivation toward environmental behaviours (Pelletier et al., 1998). Thus, there are theoretical and empirical reasons for believing that people who perceive greater control and competence toward a specific activity will report greater levels of self-determined motivation for the activity in question.

Other likely correlates of self-determined friendship motivation are the quality of significant relationships in children's lives. Indeed, children's overall social context should play a large role in facilitating or undermining intrinsic motivation, and in determining the degree of internalization of extrinsically motivated behaviour (Deci, Eghrari, Patrick, & Leone, 1994; Ryan & Deci, 2000). Although children's friendships play an important role in their social, emotional, and cognitive development, there are also many other important relationships in the social worlds of children (Furman & Buhrmester, 1985a). Parents, siblings, grandparents and other relatives, teachers, and the larger peer group may influence children's motivation towards friendships and their behaviours with their friends. For instance, Parker and Asher (1993b) found that children who were not accepted by the larger peer group had friendships of lower quality than well-accepted children. However, they also found that some low-accepted children had friends and that some high-accepted children did not. More specifically, 93.8% of high-accepted children, 82.3% of average-accepted children, and 45.3% of low-accepted children had at least one reciprocated friend.

Thus, low accepted children were less likely to have friends and had friendships of poorer quality.

The links between sibling relationships, peer relationships, and friendships have also been investigated. Some studies have reported that children who possess good sibling relationships have a greater tendency to be well accepted by their peer group and to have friendships of higher quality (e.g., McCoy, Brody, & Stoneman, 1994). However, other studies have found that children who were well accepted by the peer group and who had friendships of higher quality did not have good sibling relationships (e.g., Mendelson, Aboud, & Lanthier, 1994; Stocker & Dunn, 1990). One possible explanation of these seemingly conflicting findings may be that some children with high quality friendships had previously acquired good social skills as a result of positive interactions with their siblings (skills which, in turn, helped them achieve success in other close relationships), while other children who also displayed friendships of high quality had developed a strong need for close, intimate friendships as a result of poor sibling relationships (and worked hard to satisfy that need). Such potential reciprocity in the social provisions gained from significant social relationships has been described by others (East & Rook, 1992; van Aken & Asendorf, 1997; Weiss, 1986) as *social compensation*. According to East and Rook (1992, p. 163), "compensation implies active seeking of social provisions in an effort to substitute or make up for a particular relationship deficiency . . . those who perceive low support in one type of relationship seek support in another, functionally analogous relationship." The authors propose that school friendships and sibling relationships constitute one example of such functionally analogous relationships, drawing on previous

research from Furman and Buhrmester (1985a, 1985b) that suggested that both friendships and sibling relationships provide closeness, companionship, and sharing of mutual experiences. In East and Rook's (1992) study, socially isolated children who received little support from school friends reported greater support from sibling relationships. However, such compensatory social support alleviated only some of the socioemotional difficulties of those children (a protective effect of social compensation was obtained for only 3 out of 12 measured socioemotional outcomes, as reported by the authors).

Although the finding of a positive correlation between quality of friendships and quality of other significant relationships appears to be more common, the associations between children's friendships and their relationships with their family members and peers evidently need further exploration. For the present study, positive associations between self-determined friendship motivation and quality of relationships with friends, peers, teachers, and family members may be expected, with the assumption that high quality relationships lead to a greater sense of relatedness, competence, and autonomy in social interactions (i.e., three basic psychological needs that, when fulfilled, lead to greater self-determined motivation).

The motivations of children with their friends may be very different from those with peers in large-group situations. In fact, there appears to be an important difference between having good relations with peers and having friends (Asher et al., 1996; Bukowski & Hoza, 1989; Parker & Asher, 1993a; Rose & Asher, 1999). During the past two decades, researchers interested in children's peer relations have begun to consider the functions of children's goals during interaction with their peers. This area of research emerged after

Asher and Renshaw's contention (1981, Renshaw & Asher, 1982) that children's goals in social situations may serve an important function in their peer relations. Children's goals for social interaction may be just as important in social problem solving as their strategies and their knowledge of acceptable social behaviour (Renshaw & Asher, 1982). Social goals influence children's selection of strategies for peer interaction. Thus, social goals may play an important role in the formation of friendships (Renshaw & Asher, 1982; Taylor & Asher, 1984), and may be related to, and even influenced by, children's friendship motivation.

Research suggests that children possess different objectives (or goals) while engaging socially with their peers, and many studies have identified correlates of children's social goals. Some studies showed that children who were well accepted by their peers tended to endorse more prosocial and affiliative goals (e.g., Lochman, Wayland, & White, 1993; Renshaw & Asher, 1983). Conversely, children who were not accepted or rejected by their peers tended to favour dominance and revenge goals (e.g., Lochman et al., 1993; Rose & Asher, 1999). Several studies revealed that girls tend to choose intimacy, nurturing, avoidance, and relationship goals more than do boys (e.g., Chung & Asher, 1996; Erdley, Loomis, Cain, Dumas-Hines, & Dweck, 1997; Jarvinen & Nicholls, 1996; Rose & Asher, 1999; Ryan, Hicks, & Midgley, 1997). In contrast, boys tend to select dominance, control, social performance, social status, and leadership goals more than do girls (e.g., Chung & Asher, 1996; Erdley et al., 1997; Jarvinen & Nicholls, 1996; Rose & Asher, 1999; Ryan et al., 1997).

In one particular study, Rose and Asher (1999) investigated the effects of social

goals on children's friendship status. Using hypothetical situations describing various potential conflicts within a friendship, the authors assessed what goals fourth- and fifth-grade students would have in each situation. Specifically, they measured the social goals of relationship maintaining (e.g., "I would be trying to stay friends"), instrumental-control (e.g., "I would be trying to keep my friend from pushing me around"), and revenge (i.e., "I would be trying to get back at my friend") using self-report items scored on a Likert scale. Although the goals used in the study were social in nature, they pertained specifically to friendships rather than to the larger peer group. Results of hierarchical regressions revealed that endorsing the revenge goal significantly predicted having fewer best friends, friendships of poorer quality, and more conflicts with friends. Pursuing the instrumental-control goal also predicted having more conflicts with friends. Finally, a positive association was obtained between endorsing the relationship maintaining goal and ratings of positive friendship quality by best friend. It is important to point out that although hierarchical regression analyses were used, the study was limited by its correlational research design that precluded the establishment of causal pathways between social goals and friendship status. In other words, the finding that endorsing the revenge goal significantly predicted having fewer best friends, friendships of poorer quality, and more conflicts with friends does not rule out the possibility that having fewer best friends, friendships of poorer quality, and/or more conflicts with friends may lead to greater endorsement of the revenge goal.

Thus, the social goals adopted by children seem to be affected by their gender and related to their sociometric status and to their friendship quality. Because self-determined

motivation is generally associated with positive behavioral and psychological variables (Deci & Ryan, 1985; Ryan & Deci, 2000), children who are more self-determined in their motivation to form friendships should tend to pursue goals within their friendships that are prosocial and affiliative. Conversely, children who are less self-determined in their motivation to form friendships should have a greater tendency to pursue hostile goals within their friendships. Because many motivational theorists (e.g., Lewin, 1938; Locke, 1968; Tolman, 1932) consider goals and motives to be conceptually linked, the measure of social goals within friendships included in this study will serve as an indicator of the construct validity of the new friendship motivation scale for children.

Another potential correlate of self-determined friendship motivation that is investigated in this study is children's friendship status. Because higher levels of self-determination have been linked with greater behavioral effectiveness and persistence (Ryan & Deci, 2000), as well as more positive affect, interest, spontaneity, and creativity (Blais et al., 1990), children that are self-determined in their motivation to form friendships should be more successful in forming friendships than children who are not self-determined. Children who report being amotivated toward friendship formation should be particularly less successful at forming friendships, either because they do not value the importance of friendships or they feel helpless and incompetent in their attempts at establishing friendships.

There is extensive research documenting that one of the primary variables that bring friends together is similarity (Aboud & Mendelson, 1996). In childhood and adolescence, friends are more similar than nonfriends on multiple dimensions (e.g., Erwin, 1985). In

their review, Aboud and Mendelson (1996) examine the main areas in which friends have been found to resemble each other, including gender, age, race, academic ability, activity preferences, attitudes, values, personality, and self-concept. Schneider (2000) cautions that this is not always beneficial, citing research that document the negative consequences of friendships involving aggressive children. The fact that children become friends with other children that share even their negative characteristics underscores the important role played by similarity, or at least perceived similarity (Aboud & Mendelson, 1996), in friendship selection. Thus, if the concept of self-determined friendship motivation is a valid construct, friends should report at least some degree of similarity in their levels of self-determination.

Finally, the contribution of self-determined friendship motivation to feelings of loneliness and social dissatisfaction will be investigated. Children's relationships with their friends and with the larger peer group may influence their feelings of loneliness and social dissatisfaction. Asher and Wheeler (1985) found that children who were rejected by their peers reported greater feelings of loneliness than nonrejected children. The authors did not measure the children's friendships, and it could be hypothesized that rejected children also had fewer friends. Indeed, Parker and Asher (1993b) found that low-accepted children were less likely to have a best friend than average or high-accepted children. In Parker and Asher's study, children who did not have any best friends indicated more feelings of loneliness than children who had at least one best friend, regardless of their level of peer acceptance. Therefore, children who are rejected by the larger peer group and children who do not have best friendships seem to be at greater risk for loneliness and social dissatisfaction.

Kupersmidt, Buchele, Voegler, and Sedikides (1996) hypothesized that loneliness and social dissatisfaction could be partially explained by some of the issues considered in the self-discrepancy theory originally developed by Higgins (1989; Higgins, Bond, Klein, & Strauman, 1986). Self-discrepancy theory suggests that a gap may exist between two specific self structures, the “ideal self” (the attributes that a person wishes to possess) and the “actual self” (the attributes that a person believes to possess). Research with adult populations has shown that incongruities between those two self structures are related to negative feelings, such as sadness and disappointment (Higgins et al., 1986, Strauman & Higgins, 1987). Kupersmidt et al.’s (1996, pp. 83-84) adaptation of the self-discrepancy theory proposes that “loneliness could be predicted from the discrepancy between children’s desire for better peer relations and their lack of desired peer relations.” Applying the same reasoning to friendship motivation, it can be postulated that a substantial discrepancy between children’s friendship motivation and their lack of friends should be linked with more loneliness and social dissatisfaction.

Goals and Hypotheses for the Present Study

Given the importance of friendships for the social, cognitive, and emotional development of children, it is important to investigate the reasons why children want to form friendships. The present study is the necessary first step that should contribute substantially to the creation of a friendship motivation model that would likely include predictors of children’s reasons for wanting to form friendships (i.e., level of self-determination) and outcomes of self-determined friendship motivation. Such a model would be of considerable importance to general knowledge of children’s friendships. The

present research should also benefit parents and teachers by helping them understand the motivation that contributes to children's desire for friendships or lack of it.

The objectives for the present study are twofold: (a) to develop and test the psychometric properties of the new Friendship Motivation Scale for Children (FMSC), and (b) to identify correlates of children's friendship motivation. The hypotheses are:

1) The FMSC will demonstrate good construct validity, as articulated in the following eight hypotheses:

(a) Factor analysis of the FMSC, computed separately for boys and girls in order to verify the stability of the factor structure, will demonstrate the presence of four factors found on the self-determination continuum: intrinsic motivation, identified regulation, external regulation, and amotivation;

(b) The factor structure of the FMSC will be invariant across gender;

(c) Correlations among the four subscales will support the underlying theoretical model (i.e., the self-determination continuum) by displaying a simplex pattern in which the subscales that are adjacent to one another (i.e., intrinsic motivation and identified regulation; identified regulation and external regulation; and, external regulation and amotivation) will have positive correlations, while the subscales situated at the opposite ends of the continuum (i.e., intrinsic motivation and amotivation) will have a negative correlation;

(d) Scores on friendship motivation subscales that are at the high end of the self-determination continuum (i.e., intrinsic motivation and identified regulation) will correlate *positively* with scores on relationally oriented social goals within friendships.

Conversely, scores on friendship motivation subscales that are at the low end of the self-determination continuum (i.e., external regulation and amotivation) will correlate *negatively* with scores on relationally oriented social goals within friendships;

(e) Scores on friendship motivation subscales that are at the high end of the self-determination continuum (i.e., intrinsic motivation and identified regulation) will correlate *negatively* with scores on hostile social goals within friendships. Conversely, scores on friendship motivation subscales that are at the low end of the self-determination continuum (i.e., external regulation and amotivation) will correlate *positively* with scores on hostile social goals within friendships;

(f) Scores on friendship motivation subscales that are at the high end of the self-determination continuum (i.e., intrinsic motivation and identified regulation) will correlate *positively* with scores on the item stating that having good relationships with their friends is the most important thing for them. Conversely, scores on friendship motivation subscales that are at the low end of the self-determination continuum (i.e., external regulation and amotivation) will correlate *negatively* with scores on the item stating that having good relationships with their friends is the most important thing for them; and,

(g) Scores on friendship motivation subscales that are at the high end of the self-determination continuum (i.e., intrinsic motivation and identified regulation) will correlate *positively* with scores on the item stating that it is more important to have one or two good friends than to be popular. Conversely, scores on friendship motivation subscales that are at the low end of the self-determination continuum (i.e., external regulation and amotivation) will correlate *negatively* with scores on the item stating that it is more

important to have one or two good friends than to be popular.

(h) Ratings of mutual friends (i.e., within-dyad) on all four friendship motivation scales will correlate positively.

2) The FMSC will demonstrate good reliability, as demonstrated by the following two hypotheses:

(a) The four factors of the FMSC will demonstrate acceptable internal consistency; and,

(b) The FMSC will demonstrate good test-retest stability.

3) Girls will report greater self-determined friendship motivation than will boys.

4) Children who report greater perceived social competence will report greater self-determined friendship motivation than children who report lower perceived social competence.

5) Children who report a more internal locus of control for social situations will report greater self-determined friendship motivation than children who report a more external locus of control.

6) Children who are preferred by their peers will report greater self-determined friendship motivation than children who are not liked as much by their peers.

7) Children who report high quality supportive relationships with their best friend, parents, favourite sibling, favourite relative, and teacher will report greater self-determined friendship motivation than children who report low quality relationships with their best friend, parents, favourite sibling, favourite relative, and teacher.

8) Children who report greater self-determined friendship motivation will have

more friends than children who report lower self-determined friendship motivation.

9) Children who have at least one best friend will report greater self-determined friendship motivation than children who do not have a best friend.

10) Children who report greater self-determined friendship motivation will report fewer feelings of loneliness and social dissatisfaction than children who report lower self-determined friendship motivation.

11) Loneliness will be better predicted by the interaction between friendship motivation and the presence or absence of a mutual best friend, as articulated in the following two hypotheses:

(a) Children who *have* a best friend and who indicate that they are highly self-determined in their motivation to form friendships will report fewer feelings of loneliness and social dissatisfaction than those who *do not have* a best friend and who indicate that they are highly self-determined in their motivation to form friendships.

(b) Children who do not have a best friend and who indicate that they *are not* highly self-determined in their motivation to form friendships will report fewer feelings of loneliness and social dissatisfaction than those who do not have a best friend and who indicate that they *are* highly self-determined in their motivation to form friendships.

CHAPTER II

METHOD

Participants

Participants were 490 fifth ($n = 189$), sixth ($n = 160$), and seventh ($n = 141$) graders (245 girls and 245 boys) from 24 classrooms in three French-Canadian schools located in the south-eastern region of the province of New-Brunswick, Canada. Two of the three schools were located in small rural areas, consisting mainly of working-class and lower-middle-class families. The third school was located in an upper-SES neighbourhood of a small- to mid-sized town, comprised primarily of middle- and upper-class families. Signed parental consent and child assent were required for participation in all aspects of the study. Information letters (see Appendix A) and consent forms (see Appendix B) were sent to the parents of all 645 children in these classrooms, with a positive response rate of over 75%. The sample was more than 95% Caucasian, and the children's mean age was 10.9 years (ranging from 9 to 13 years).

Procedure

Data collection took place in the classrooms in one 45-60 minute session for all of the participants. In these group-administered sessions, I and/or two trained graduate students administered all of the questionnaires. We assured the participants of the confidentiality of their answers, and we reminded them that they could withdraw from the study at any time or skip certain sections or items (see Appendix C for child assent form).

We read aloud to the participants all instructions and sample items from each measure, and we provided individual assistance as needed and/or requested. Because of limits in the time the schools would allow for data collection, we administered most measures to only a portion of the participants (we administered the FMSC to all participants). More specifically, we administered all of the other questionnaires to one fourth of the participants.

The same procedures were followed for a sub-sample of 60 fifth ($n = 19$), sixth ($n = 21$), and seventh ($n = 20$) graders (36 girls and 24 boys) from 3 classrooms retested eight weeks later in order to establish the test-retest stability of the FMSC. The three classrooms were randomly chosen at the outset of the study.

Measures

Friendship motivation. The FMSC was developed for the purpose of this study. Preliminary items were formulated on the basis of both self-determination theory (Deci & Ryan, 1985) and a small pilot study in which 5 fifth graders were asked open-ended questions about their motives for seeking out friendships. Items were worded as responses to the general question: "Why do you want to have friends?". Eight preliminary items were formulated for each of the following four subscales: intrinsic motivation (e.g., "For the fun moments that I have with friends"), identified regulation (e.g., "Because I think it is a good way to feel better when I am sad"), external regulation (e.g., "To be invited to parties"), and amotivation (e.g., "I find that I am wasting my time when I try to have friends"). The response format was a 4-point scale ranging from *not at all like me* to *exactly like me*. The 32 items were presented in random order. The decision to omit a subscale measuring

integrated regulation was based on previous research suggesting that even adults fail to distinguish between integrated regulation and identified regulation (Ryan & Connell, 1989; Pelletier et al., 1995; Vallerand et al., 1989). The decision to exclude a subscale measuring introjected regulation was based on (a) its non-necessity in computing a global motivational score, (b) the desire to keep the scale as reasonably short as possible (especially in light of the limited time available from the schools for sessions of data collection and in order to keep children's fatigue levels at a minimum), and (c) the exclusion of this subscale by previous researchers developing similar instruments (e.g., Guay, Vallerand, & Blanchard, 2000).

The preliminary version of the FMSC was administered to 96 fifth- and sixth-graders (34 boys and 62 girls) from one French-Canadian school located in the Ottawa region of the province of Ontario, Canada. I administered the questionnaire in a group format following the same procedures described in the previous section. Preliminary analyses were conducted for the 32 items in order to verify the normality of their distribution. The mean skewness and kurtosis absolute values for the items were inferior to 1.0, which suggested that the scores were normally distributed (Muthén & Kaplan, 1985). A principal-components factor analysis (FA) using oblique rotation ($\Delta = 0$) was conducted on the data. Using the information obtained from the preliminary analyses and from the factor analysis, three items per subscale were chosen for the experimental version of the FMSC (see Appendix D). Factor loadings after rotation are presented in Table 1. A four-factor solution (i.e., intrinsic motivation, identified regulation, external regulation, and amotivation; eigenvalues greater than 1) was obtained and accounted for 64% of the

Table 1

Factorial Structure of the FMSC (Preliminary Version)

	Intrinsic Motivation $\alpha = .84$	Identified Regulation $\alpha = .71$	External Regulation $\alpha = .80$	Amotivation $\alpha = .74$
IM01	.93			
IM07	.79			
IM12	.85			
IR03		.94		
IR05		.60		
IR09	.36	.63		
ER02			.81	
ER06			.91	
ER11			.78	
AM04				.94
AM08				.76
AM10			.34	.64

Note. Only loadings $\geq .30$ are indicated.

variance. Each factor consisted of three items with loadings greater than .30. Two cross-loadings were obtained, although loadings for the two items were higher for their respective factor: One item measuring identified regulation also loaded on intrinsic motivation and one item measuring amotivation also loaded on external regulation. These cross-loadings are not unusual given that intrinsic motivation and identified regulation are both situated at the high end of the self-determination continuum; and, external regulation and amotivation are both located at the low end of the continuum. Finally, each subscale's internal consistency coefficient was acceptable (Cronbach's alpha ranging from .71 to .84).

As typically done by researchers studying self-determined motivation (e.g., Blais et al., 1990; Fortier, Vallerand, & Guay, 1995; Grolnick, Ryan, & Deci, 1991) a global motivational score (i.e., self-determination index, or SDI) was calculated, after having established the validity of the self-determination continuum, by assigning weights or values to each subscale and then adding the obtained weighted scores. Each subscale was weighted according to its location on the self-determination continuum (i.e., subscales situated at both extremes of the continuum are typically given larger weights because they represent the highest and lowest forms of self-determination and because their contribution to total motivation should theoretically be greater), using the following formula: $SDI = (2 * \text{intrinsic motivation}) + (1 * \text{identified regulation}) - (1 * \text{external regulation}) - (2 * \text{amotivation})$. According to this formula, children who obtain higher SDI values on the FMSC will be considered as having greater self-determined friendship motivation than those who obtain lower SDI values on the FMSC.

Social goals. Children's social goals were assessed using hypothetical situations

related to conflicts within friendships. This methodology, which has been extensively used in the past (e.g., Erdley & Asher, 1996; Lochman et al., 1993; Rabiner & Gordon, 1992; Renshaw & Asher, 1983; Rose & Asher, 1999; Slaby & Guerra, 1988), is useful in studying individual differences in children's social goals because each child is exposed to the same social situations. Past research has suggested that children's social goals, as assessed by their responses to hypothetical situations, are related to their social strategies (Erdley & Asher, 1996; Lochman et al., 1993; Rose & Asher, 1999; Slaby & Guerra, 1988), and to their actual behaviours (Chung & Asher, 1996).

In this study, four hypothetical situations pertaining to a conflict situation with a friend were presented to the children, along with four goal options. Children were asked to specify how important each of the four goals would be to them for each situation using a 5-point scale ranging from 1 (not important) to 5 (very important). The hypothetical situations and the goal options were similar to those used by Rose and Asher (1999) in their study of the social goals of children in response to conflicts within a friendship. The four hypothetical situations consisted of *maintaining reciprocity*, *helping a friend in need*, *being a reliable partner*, and *managing disagreements over resources*. The four goal options were *relationship*, *moral*, *control*, and *revenge* (see Appendix E for the descriptions of the hypothetical situations and the goal options). The order of presentation of the hypothetical situations and of the goal options were random. As suggested by Rose and Asher (1999), scores from the relationship and moral goals were combined to form a global *relationship-maintaining* goal. Children's social goals scores consist of their mean score for each social goal across the four hypothetical situations. Rose and Asher (1999) report good internal

consistency for their measure (i.e., Cronbach's alpha of .98 for the relationship maintaining goal, .97 for the control goal, and .96 for the revenge goal). Internal consistency (i.e., Cronbach's alpha) for the present sample was: (a) .83 for the relationship maintaining goal, (b) .93 for the control goal, and (c) .92 for the revenge goal.

Global importance of friendship. As an additional measure of the validity of the FMSC, I included one item that assessed the global importance of friendship (i.e., "Having good relationships with friends is the most important thing for me"), and one item that assessed the importance of friendship as compared to peer preference (i.e., "It is more important to have one or two good friends than to be popular"). The response format was a 4-point scale ranging from *not at all like me* to *exactly like me*.

Perceived social competence. Perceived competence was measured using a French-Canadian version (Gauvin, 1982) of the Perceived Competence Scale for Children (Harter, 1982). The scale consists of four factors (i.e., Cognitive competence, Social competence, Physical competence, and General self-worth), each containing seven items scored on a 4-point scale (See Appendix F). The scale is widely used, and most studies that have examined its psychometric properties (e.g., Guilbert, 1990; Harter, 1982; Pierrehumbert, Plancherel, & Jankech-Caretta, 1987), have demonstrated that the measure shows good internal consistency (Cronbach's alpha of each subscale ranging from .70 to .86) and good test-retest stability (r s from .69 to .87). Internal consistency (i.e., Cronbach's alpha) for the present sample was satisfactory: .78 for the Cognitive subscale, .79 for the Social subscale, .72 for the Physical subscale, and .79 for the General self-worth subscale. Scores from the Social subscale were used in the analyses.

Social experience locus of control. Internal or external locus of control of social experience was assessed by the “Lieu de Contrôle de l’Expérience Sociale” [Social Experience Locus of Control]. The scale consists of eight items scored on a 4-point scale (See Appendix G). Longitudinal data from an unpublished study (Boivin, 2001) with more than 1000 fifth, sixth, and seventh graders show that the measure displays acceptable internal consistency (Cronbach’s alpha ranging from .70 to .75) and is stable over a 6-month period (i.e., $r = .53$) and a 12-month period (i.e., $r = .42$). Internal consistency (i.e., Cronbach’s alpha) for the present sample was .70.

Sociometric choice nominations. As suggested by Asher et al. (1996), a positive nomination procedure was used to assess mutual friendships, whereas a rating scale was used to measure peer preference. Peer sociometrics were administered only in classrooms for which at least 70% of the children participated ($n = 302$).

In order to determine mutual friendships, a class roster containing all the names of the participating children was handed to each participant. Children were asked to circle the names of their friends using this list (nominations were unlimited), and to identify their first best friend among those they had circled. This commonly used measure (e.g., Hoza et al., 2000; Parker & Asher, 1993b) determines the number of reciprocated friendships for each child (i.e., children circling each other’s names as friends), and identifies children that have a reciprocated first best friendship (i.e., two children picking each other as their first best friend).

Peer preference scores (e.g., Hoza et al., 2000; Parker & Asher, 1993b) were obtained by asking participants to rate on a 5-point scale how much they liked each of their

classmates. A frowning face next to the number 1, and a smiling face next to the number 5, were added to ensure that children clearly understood the meaning of the scale. Three mean raw scores, ranging from 1 to 5, were calculated for each child based on ratings from the whole class, same-sex classmates, and opposite-sex classmates. As is typical in peer relationship research, mean raw scores were standardized by class.

Network of relationships. The quality of children's relationships with others was assessed by using a French-Canadian version (Larose & Roy, 1994) of the Network of Relationships Inventory (NRI) (Furman & Buhrmester, 1985a). Children were asked to describe their relationships with their best friend, father, mother, favourite sibling, favourite relative (i.e., grandparent, aunt, or uncle), and teacher using this 15-item self-report questionnaire (see Appendix H). The questionnaire contains five scales: (a) companionship, (b) instrumental aid, (c) affection, (d) intimacy, and (e) conflict. Using 5-point scales, children were asked to rate to what extent these features take place in each relationship. The first four scales were combined into one measure of social support, as done by most researchers and as supported by factor analysis. The measure shows good internal consistency (mean Cronbach's $\alpha = .80$) (Furman & Buhrmester, 1985a) and good test-retest stability (i.e., r s from .66 to .70) (Connolly & Konarski, 1992, as cited in Furman, 1996). I derived overall indexes of social support and conflict (i.e., across relationships) by summing the standardized scores for each relationship (scores were standardized because of the mean differences across relationships). Internal consistency (i.e., Cronbach's α) for the present sample was .97 for social support and .89 for

conflict².

Loneliness. To measure children's feelings of loneliness and social dissatisfaction, a French-Canadian version of Asher and Wheeler's (1985) Loneliness and Social Dissatisfaction Questionnaire (LSDQ) was used (see Appendix I). The instrument contains 16 items that focus on children's dissatisfaction with their social relationships, and their feelings of loneliness. Also, eight "filler" items referring to children's hobbies or favourite activities are included in the measure as a way of helping children feel more comfortable and relaxed about sharing their feelings. Each of the 24 items is answered using a 5-point scale. The scale shows good internal consistency (i.e., Cronbach's alpha = .81) and scores have been shown to be stable over a 6-month period (i.e., $r = .62$) (Boivin, Poulin, & Vitaro, 1994). Internal consistency (i.e., Cronbach's alpha) for the present sample was .86.

²

The alphas for individual subscales (i.e., when calculated separately for each relationship) were lower: (a) *best friend* .88 for social support and .78 for conflict, (b) *father* .90 for social support and .60 for conflict, (c) *mother* .89 for social support and .67 for conflict, (d) *favorite sibling* .91 for social support and .68 for conflict, (e) *favorite relative* .90 for social support and .68 for conflict, and (f) *teacher* .89 for social support and .80 for conflict.

CHAPTER III

RESULTS

Preliminary Analyses

Outliers. Careful inspection of the data revealed that 14 participants had given the same answer to all questions (e.g., scores of '4' on all items of all questionnaires). This was interpreted as a failure to understand the questions or as a desire to complete the questionnaires as quickly as possible. Therefore, data from those 14 participants were excluded from further analyses. Apart from data from those 14 participants, no other univariate or multivariate outliers were identified. Criteria used for the detection of univariate outliers consisted of an absolute value of 3 or less when scores were converted to Z-scores. Mahalanobis' distances were used as criteria for multivariate outliers, and none were significant at the .01 level.

Normality. Prior to analysis, all dependent variables were screened for deviations from normality. The means, standard deviations, skewness and kurtosis values for each dependent variable are listed in Table 2. As shown, eight variables (including the amotivation factor and the self-determination index) were not normally distributed (i.e., skewness and/or kurtosis absolute values greater than 1.0). Therefore, six variables (excluding the amotivation factor and the self-determination index) were transformed using

Table 2

Means, Standard Deviations, Skewness and Kurtosis Values for all Dependent Variables

Variable	Mean	SD	Skew.	Kurt.
FMSC (item 1 - Intrinsic Motivation)	3.36	0.69	-0.85	0.45
FMSC (item 2 - External Regulation)	2.20	1.08	0.35	-0.94
FMSC (item 3 - Identified Regulation)	2.88	0.92	-0.36	-0.77
FMSC (item 4 - Amotivation)	1.36	0.78	2.03	4.02
FMSC (item 5 - Identified Regulation)	2.68	0.88	-0.05	-0.79
FMSC (item 6 - External Regulation)	1.58	0.82	0.89	0.73
FMSC (item 7 - Intrinsic Motivation)	3.50	0.66	-0.90	-0.91
FMSC (item 8 - Amotivation)	1.23	0.68	2.22	3.31
FMSC (item 9 - Identified Regulation)	3.58	0.65	-0.93	0.94
FMSC (item 10 - Amotivation)	1.29	0.78	2.37	3.09
FMSC (item 11 - External Regulation)	1.94	1.14	0.79	-0.89
FMSC (item 12 - Intrinsic Motivation)	3.25	0.76	-0.77	0.16
FMSC (Intrinsic Motivation Factor)	3.37	0.54	-0.64	0.15
FMSC (Identified Regulation Factor)	3.05	0.62	-0.34	-0.18
FMSC (External Regulation Factor)	1.90	0.78	0.69	-0.31
FMSC (Amotivation Factor)	1.29	0.57	2.19	3.58
FMSC (self-determination index)	5.30	2.21	-1.20	2.52
Relationship maintaining goal	4.46	0.53	-0.75	-0.26
Control goal	2.56	1.42	0.41	-0.93
Revenge goal	1.48	0.90	2.18	4.39
Perceived competence	2.85	0.46	0.06	0.24
Perceived control in social interactions	2.95	0.51	-0.26	0.29
Peer ratings from total class	2.66	0.55	-0.07	-0.35
Number of reciprocated friendships	1.65	1.41	0.89	0.94
NRI (social support, standardized)	0.05	3.15	-0.11	-0.83
NRI (conflict, standardized)	-0.11	3.11	0.60	0.57
Loneliness and social dissatisfaction	1.50	0.41	0.96	0.82
Good relationships with friends is most important	3.42	0.70	-1.04	0.72
Having friends more important than being popular	3.39	0.79	-1.16	0.69

either a *square root* or an *inverse*³ formula, according to the severity of the deviation from normality. Following transformation, all eight variables (including the amotivation factor and the self-determination index, as a result of the transformation of amotivation items) had both skewness and kurtosis absolute values equal to or lower than 1.0 (see Table 3). Subsequent analyses were conducted using the transformed variables.

Linearity and homoscedasticity. Bivariate scatterplots were randomly chosen and inspected for signs of deviations from linearity and/or heteroscedasticity (i.e., unequal variance within pairs of variables). The distribution of standardized residuals were also inspected. There was no evidence of deviations from linearity or of heteroscedasticity.

Reliability

Internal consistency. Internal consistency analyses (i.e., Cronbach's alpha) were conducted for each of the four subscales of the FMSC. Results indicated that the alphas were .75 for the intrinsic motivation subscale, .72 for the identified regulation subscale, .73 for the external regulation subscale, and .77 for the amotivation subscale. Considering that each subscale consists of only three items, internal consistency appears to be acceptable.

Test-retest coefficients. The test-retest correlations of the FMSC for a sample of 60 fifth-, sixth-, and seventh-grade children (36 girls and 24 boys) retested 8 weeks later were .70 ($p < .01$) for the intrinsic motivation subscale, .63 ($p < .01$) for the identified regulation subscale, .75 ($p < .01$) for the external regulation subscale, and .60 ($p < .01$) for

3

To facilitate interpretation, variables that were transformed using an inverse formula were then *reflected* such that higher scores continued to represent greater endorsement of the item or scale.

Table 3

Skewness and Kurtosis Values for all Transformed Variables

Variable	Skewness	Kurtosis
FMSC (item 4 - Amotivation) (INV)	0.95	0.46
FMSC (item 8 - Amotivation) (INV)	0.98	0.37
FMSC (item 10 - Amotivation) (INV)	1.04	0.50
FMSC (Amotivation Factor)	1.00	0.49
FMSC (self-determination index)	-0.51	0.57
Revenge goal (INV)	0.96	0.38
Good relationships with friends is most important (SQRT)	-0.70	-0.49
Having friends more important than being popular (SQRT)	-0.84	-0.37

the amotivation subscale. The test-retest correlation of the self-determination index (SDI) was .70 ($p < .01$).

Construct Validity

Confirmatory factor analyses. The FMSC's four-factor structure was tested separately for boys and girls using a confirmatory factor analytic (CFA) procedure within the framework of covariance structure analysis. As typically done when testing for invariance of structure across gender (e.g., Byrne & Shavelson, 1987), the first step was to determine the best fitting model for each gender separately. Using the LISREL 8 program (Jöreskog & Sörbom, 1993), the covariance matrices were analysed using a maximum likelihood method of estimation. The model that was tested allowed non-zero loadings for each indicator variable when loading on the factor it was designed to measure, and it allowed all factors to correlated freely. Evaluation of model fit was based on multiple criteria: the χ^2 likelihood ratio statistic, the Comparative Fit Index (CFI; Bentler, 1990), the Goodness-of-Fit Index (GFI; Hu & Bentler, 1995), the Adjusted Goodness-of-Fit Index (AGFI; Hu & Bentler, 1995), the Root Mean Square Residual (RMR; Hu & Bentler, 1995), and the Expected Cross-Validation Index (ECVI; Browne & Cudeck, 1989). Although a nonsignificant χ^2 is indicative of a good fit, it is very sensitive to large sample sizes (Byrne, 1998) and, for this reason, several more practical indices of fit have been developed. In general, values greater than .90 for the CFI, GFI, and AGFI, and lower than .05 for the RMR, are reflective of a well-fitting model (Byrne, 1998). The ECVI is a measure of "the likelihood that the model cross-validates across similar-sized samples from the same population" (Byrne, 1998, p. 113). Lower ECVI values suggest greater probability of

replication.

As indicated by the multiple goodness-of-fit statistics reported in Table 4, the initially hypothesized model did not fit the boys' data as well as anticipated. However, an inspection of the error covariance matrix revealed four error covariances (i.e., correlated errors) that if freely estimated would lead to a sizeable drop in χ^2 . According to Byrne (1998, p.126), "there are many situations, particularly with respect to social psychological research, where these parameters can make strong substantive sense and therefore should be included in the model." With respect to the present model, three of the correlated errors involved two items from the same factor and the fourth correlated error involved two items from adjacent factors that are both at the high end of the self-determination continuum (i.e., intrinsic motivation and identified regulation). Therefore, the addition of the four correlated errors in the model seemed theoretically and psychometrically reasonable and resulted in a better fitting model ($\Delta \chi^2 = 27.49$, $df = 4$, $p < .01$) that is expected to be more replicable than the initial model (as evidenced by the lower ECVI value).

The goodness-of-fit statistics presented in Table 4 also reveal that the initial model fit the girls' data slightly better. Nevertheless, four correlated errors were also identified and subsequently added to the model. Two of the correlated errors involved two items from the same factor and the two others involved two items from adjacent factors located at the high end of the self-determination continuum (i.e., intrinsic motivation and identified regulation). Again, the addition of the four correlated errors resulted in a better fitting model ($\Delta \chi^2 = 30.76$, $df = 4$, $p < .01$) that is expected to be more replicable than the initial model.

Table 4

Summary Confirmatory Factor-Analytic Model Fit Statistics for the FMSC (both genders)

Model	χ^2	df	CFI	GFI	AGFI	RMR	ECVI
<i>Boys</i>							
1. Initial 4-factor model (IM, IR, ER, AM)	112.38	48	.88	.93	.88	.038	.72
2. Final 4-factor model (4 correlated errors)	84.89	44	.93	.95	.91	.035	.64
<i>Girls</i>							
1. Initial 4-factor model (IM, IR, ER, AM)	103.52	48	.90	.93	.89	.032	.68
2. Final 4-factor model (4 correlated errors)	72.76	44	.95	.96	.92	.032	.57

Note. CFI = Comparative Fit Index; GFI = Goodness-of-Fit Index; AGFI = Adjusted Goodness-of-Fit Index; RMR = Root Mean Square Residual; ECVI = Expected Cross-Validation Index; IM = Intrinsic Motivation; IR = Identified Regulation; ER = External Regulation; AM = Amotivation.

Thus, data from both samples confirm the four-factor structure of the FMSC. The final models are presented in Figures 1 and 2. Included in the models are the factor loadings for each item, the measurement errors for each item, and the four correlated errors that were added to each initial model.

Tests of invariance. Confirmatory factor analyses for multiple groups were computed in order to test for invariance of structure across gender (Byrne, 1998; Jöreskog & Sörbom, 1996). This procedure usually involves three steps: (a) determining whether or not the number of factors is invariant across gender, (b) testing for the invariance across gender of the pattern of factor loadings, and (c) testing for the invariance across gender of all factor variances and covariances.⁴

Results of all tests of invariance are presented in Table 5. As shown, results from the initial confirmatory factor analysis for multiple groups (Model 1) revealed that the number of factors appear to be invariant across gender. This statement is based on the χ^2/df ratio of 1.79 (i.e., $\chi^2 = 157.65$, $df = 88$), which is in the suggested range of 1.00 to 5.00 (Bollen, 1989; Byrne & Shavelson, 1987), and on the multiple goodness-of-fit indices (i.e., CFI and GFI above .90; RMR below .05). A second model was then tested in which all factor loadings were constrained to be equal (Model 2). Given the nonsignificant difference in χ^2 between the two models ($\Delta \chi^2 = 13.68$, $df = 8$, $p > .05$), it is reasonable to conclude that the pattern of factor loadings is also invariant across gender (Byrne, 1998; Jöreskog &

4

Factor variances and covariances refer to the variances and covariances of the four factors measured by the 12 FMSC items (i.e., intrinsic motivation, identified regulation, external regulation, and amotivation).

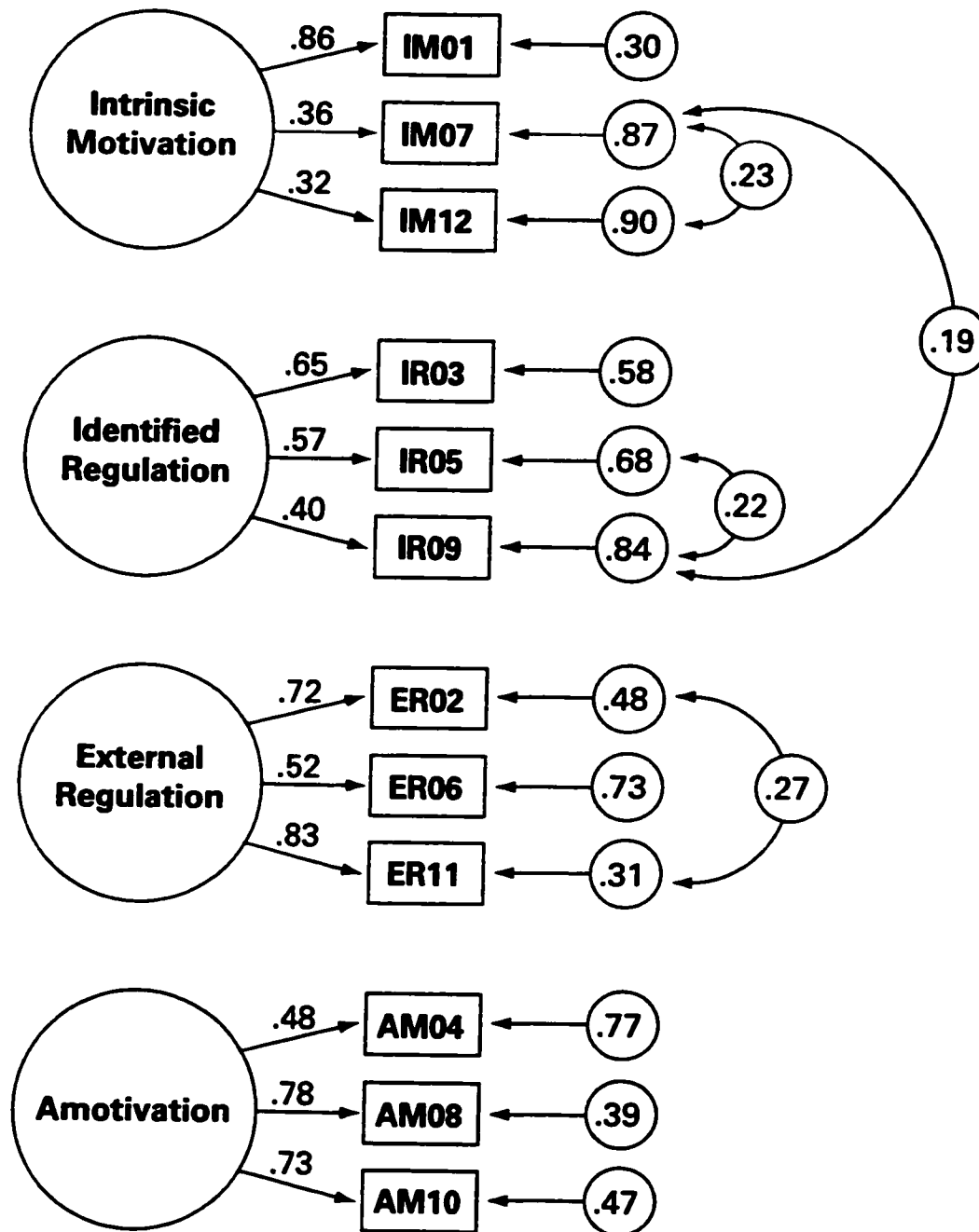


Figure 1: Final confirmatory factor analytic model for the FMSC (boys). Parameter estimates are standardized and are all statistically significant ($p < .01$). Correlations between factors (Phi values) are presented in Table 6.

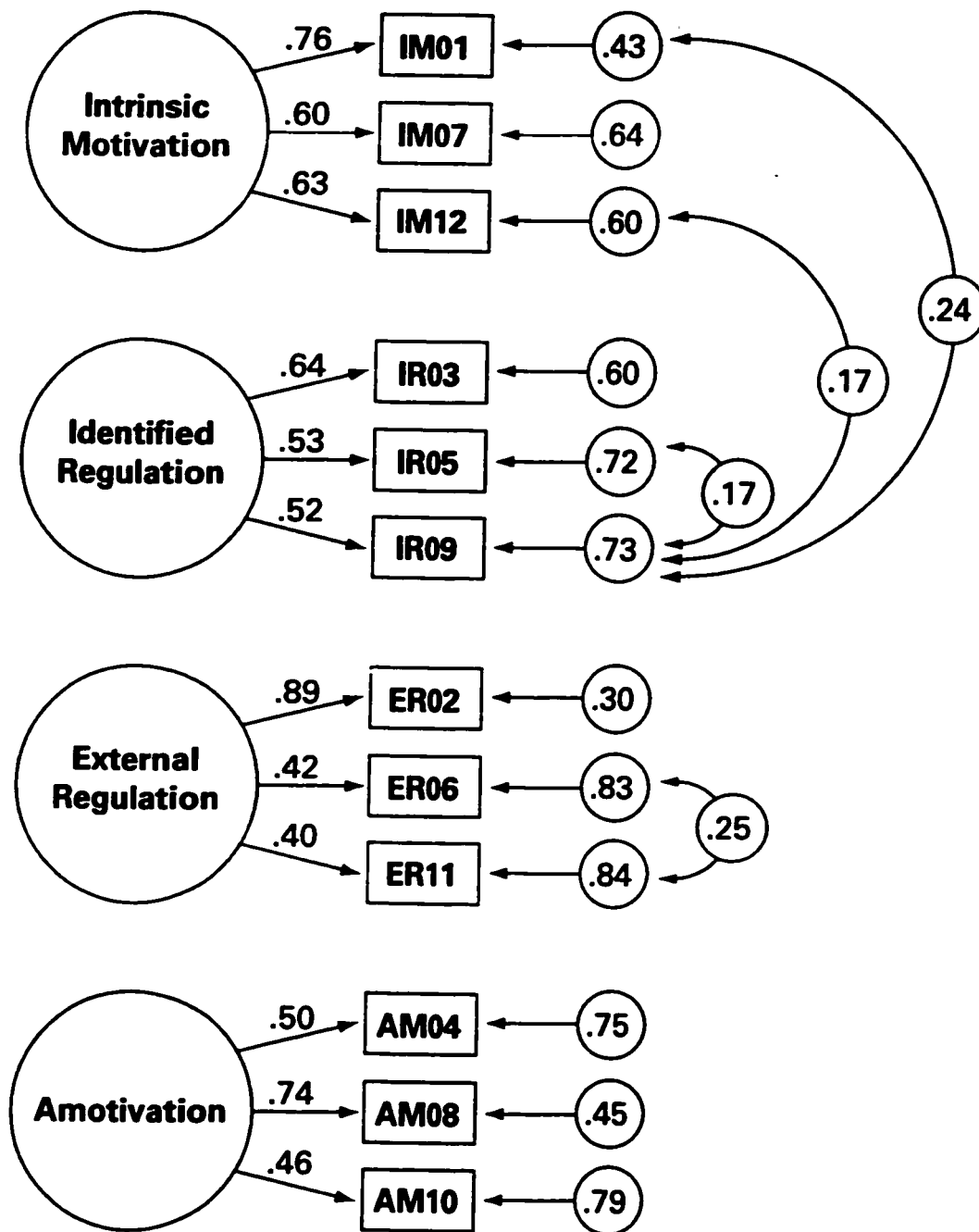


Figure 2: Final confirmatory factor analytic model for the FMSC (girls). Parameter estimates are standardized and are all statistically significant ($p < .01$). Correlations between factors (Phi values) are presented in Table 7.

Table 5

Simultaneous tests for the invariance of the FMSC structure across gender

Model	χ^2	df	$\Delta \chi^2$	df	CFI	GFI	RMR	ECVI
1. Number of factors invariant	157.65	88	–	–	.94	.96	.032	.61
2. Model 1 with pattern of factor loadings held invariant	171.33	96	13.68	8	.92	.95	.033	.62
3. Model 2 with all factor variances and covariances held invariant	195.3	106	23.97*	10	.90	.94	.042	.64
4. Model 2 with equivalent factor variances and covariances held cumulatively invariant:								
Variances								
Intrinsic Motivation	174.38	97	3.05	1	.92	.95	.036	.63
Identified Regulation	174.50	98	3.17	2	.92	.95	.035	.62
External Regulation	178.78	99	7.45	3	.91	.95	.039	.63
Amotivation	191.09	100	19.76*	4	.90	.94	.039	.66
Covariances								
IR / IM	179.03	100	7.70	4	.91	.95	.038	.63
ER / IM	180.39	101	9.06	5	.91	.95	.040	.62
AM / IM	180.55	102	9.22	6	.91	.95	.040	.62
RE / RI	180.57	103	9.24	7	.92	.95	.040	.62
AM / RI	180.86	104	9.53	8	.92	.95	.040	.61
AM / RE	187.27	105	15.94	9	.91	.94	.043	.63

Note. CFI = Comparative Fit Index; GFI = Goodness-of-Fit Index; RMR = Root Mean Square Residual; ECVI = Expected Cross-Validation Index; IM = Intrinsic Motivation; IR = Identified Regulation; ER = External Regulation; AM = Amotivation.

* $p < .01$.

Sörbom, 1996).

As shown in Table 5, there was a significant difference between Model 3 (i.e., invariance across gender of all factor variances and covariances) and Model 2 ($\Delta \chi^2 = 23.97$, $df = 10$, $p < .01$). This suggests the presence of at least one variance and/or covariance in the factor covariance matrix that is not invariant across gender. Therefore, the invariance of each variance and covariance was subsequently tested cumulatively⁵ in order to be able to identify which one(s) was (were) not invariant across gender (Byrne, 1998). Table 5 reveals a significant gender difference in the variance of the amotivation factor (variance was .01 for girls and .02 for boys). No other gender differences in the factor covariance matrix were obtained.

Thus, results presented in Tables 4 and 5 generally support a four-factor structure for the FMSC (i.e., intrinsic motivation, identified regulation, external regulation, and amotivation) for both boys and girls. Furthermore, patterns of factor loadings and all but one parameter of the factor covariance matrix (i.e., the variance of the amotivation factor) were found to be invariant across gender. Overall, these results support the validity of the FMSC as a four-dimensional measure of friendship motivation for boys and girls.

5

In other words, once a parameter (factor variance or covariance) was found to be invariant across gender, that parameter was constrained to be equivalent for all subsequent analyses. For example, Table 5 reveals that the variance of intrinsic motivation was found to be invariant. Therefore, that variance was constrained to be equivalent when testing for the invariance of identified regulation. However, once a parameter was found to be noninvariant (i.e., the variance of amotivation), that parameter was *not* constrained to be equivalent in subsequent analyses. According to Byrne (1998), this procedure is more rigorous than testing noninvariant parameters independently.

Correlations among the four subscales. Pearson correlations and phi values (i.e., covariances between latent factors of the confirmatory factor analysis) computed among the four subscales of the FMSC (see Table 6 for boys and Table 7 for girls) suggest the existence of a self-determination continuum, as proposed by Deci and Ryan (1985). As expected, a simplex structure was obtained for both genders, in which the subscales that are adjacent to one another (i.e., intrinsic motivation and identified regulation; identified regulation and external regulation; and, external regulation and amotivation) correlated positively, while the subscales situated at the opposite ends of the continuum (i.e., intrinsic motivation and amotivation) correlated negatively. Although data from girls better approximate a simplex pattern (given the statistically significant negative correlation between intrinsic motivation and amotivation), the overall pattern of results from both genders are consistent with Deci and Ryan's (1985) self-determination continuum.

Relation to social goals. As a first measure of the convergent validity of the FMSC, Pearson correlations were computed between the four subscales of the FMSC and the three social goals (i.e., relationship maintaining, control, and revenge). Scores on subscales situated at the *high* end of the self-determination continuum were expected to correlate positively with the relationship-maintaining goal and negatively with the more hostile goals (i.e., control and revenge), whereas scores on subscales situated at the *low* end of the self-determination continuum were expected to correlate negatively with the relationship-maintaining goal and positively with the more hostile goals. Table 8 shows that although some correlations were not statistically significant, most were in the hypothesized directions. Interestingly, scores on the relationship-maintaining goal

Table 6

Pearson Correlations (below the diagonal) and Phi values (above the diagonal) between the FMSC subscales (boys)

Subscales	Subscales			
	IM	IR	ER	AM
Intrinsic Motivation (IM)	—	.69**	.32**	-.01
Identified Regulation (IR)	.43**	—	.31**	-.27*
External Regulation (ER)	.18**	.27**	—	.59**
Amotivation (AM)	-.10	-.07	.40**	—

Note. $ns = 233 - 235$ due to missing data.

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

Table 7

Pearson Correlations (below the diagonal) and Phi values (above the diagonal) between the FMSC subscales (girls)

Subscales	Subscales			
	IM	IR	ER	AM
Intrinsic Motivation (IM)	—	.75**	.21*	-.31**
Identified Regulation (IR)	.53**	—	.19*	-.39**
External Regulation (ER)	.12	.19**	—	.47**
Amotivation (AM)	-.21**	-.20**	.29**	—

Note. $ns = 234 - 238$ due to missing data.

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

Table 8

Correlations between the four friendship motivation subscales, social goals, and items assessing the global importance of friendships

Variables	Subscales			
	IM	IR	ER	AM
Relationship maintaining goal	.43**	.39**	.14	-.04
Control goal	-.06	.03	.24*	.11
Revenge goal	-.09	-.06	.23*	.29**
Good relationships with friends is most important	.40**	.34**	-.02	-.25**
Having friends more important than being popular	.28**	.21**	-.01	-.15*

Note. *ns* for social goals = 108 - 110 and *ns* for two other items = 206 - 207 due to missing data.

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

correlated positively with intrinsic motivation and identified regulation (as expected), but did not correlate negatively with external regulation or amotivation; whereas, scores on the more hostile goals correlated positively with external regulation and amotivation (as expected), but did not correlate negatively with intrinsic motivation or identified regulation.

Relation to global importance of friendships. As an additional measure of the convergent validity of the FMSC, I administered two items that assessed the overall importance of friendships: (a) Having good relationships with friends is the most important thing for me, and (b) It is more important to have one or two good friends than to be popular. Scores on subscales situated at the *high* end of the self-determination continuum were expected to correlate positively with both items, whereas scores on subscales situated at the *low* end of the self-determination continuum were expected to correlate negatively with both items. Again, Table 8 reveals that results were mostly as expected.

Similarity on motivational subscales between friends. Children identifying each other as their best friend were paired in order to examine whether they displayed similar levels of self-determined friendship motivation. Intraclass correlations revealed associations between scores on some subscales for members of friendship dyads. Positive correlations were obtained for all four subscales. However, correlations were significant for only two of the subscales: intrinsic motivation ($r = .45, p < .01, n = 52$) and external regulation ($r = .22, p < .05, n = 52$). Correlations were not statistically significant for either identified regulation ($r = .08, p > .05, n = 52$) or amotivation ($r = .12, p > .05, n = 52$). Finally, the correlation between members of friendship dyads on the self-determination index was significant ($r = .49, p < .01, n = 52$).

Because overall results support the construct validity and reliability of the FMSC and of the self-determination continuum that it was designed to measure, all subsequent statistical analyses were computed using the self-determination index.

Correlates of Self-Determined Friendship Motivation

Grade and gender effects. First, grade and gender effects were examined for the FMSC (see Table 9 for means and standard deviations). Specifically, a 3 (Grade: 5, 6, or 7) $\times$ 2 (Gender: girl or boy) analysis of variance (ANOVA) was conducted with self-determined friendship motivation (i.e., Self-determination index from the FMSC) as the dependent variable. Analysis revealed a significant main effect of gender, $F(1, 460) = 19.50, p < .01$. The main effect of grade, $F(2, 460) = 0.01, p > .05$, and the Grade $\times$ Gender interaction, $F(2, 460) = 1.52, p > .05$, were nonsignificant. As shown in Table 9, girls reported greater self-determined friendship motivation than did boys. Consequently, multiple regression analyses were computed in order not to overlook important gender differences that may exist in the relationship between self-determined friendship motivation and the other variables in this study. For each multiple regression analysis, the independent variables (i.e., gender and friendship motivation) were first entered (Block 1), followed by the interaction between those two variables (Block 2). These gender differences will be reported later in this chapter.

Relation to perceived social competence and locus of control of social experience.

Children's perceived social competence and their locus of control of social experience were examined in relation to self-determined friendship motivation. Previous theory and research (see Deci and Ryan, 1985; Pelletier et al., 1998) have suggested that increases in

Table 9

Descriptive Statistics for FMSC by Grade and Gender

Grade	Boys		Girls	
	M	SD	M	SD
5	9.52	1.68	9.87	1.60
6	9.18	1.40	10.17	1.76
7	9.32	1.71	10.04	1.83

Note. Cell sizes by grade within gender range from 69 to 87 for girls and from 67 to 89 for boys. Because of the transformations computed on the amotivation items, mean scores could range from -0.5 to 13; higher scores indicating greater self-determined friendship motivation.

perceived competence and/or locus of control are accompanied by similar increases in self-determined motivation. Although empirical support has been obtained chiefly in laboratory settings using puzzles and other activities (with children and adults), it was hypothesized that a similar pattern of results would be obtained for children's friendships.

Consistent with predictions, positive correlations were obtained between self-determined friendship motivation and both perceived social competence ($r = .21, p < .05, n = 84$) and internal locus of control of social experience ($r = .27, p < .01, n = 92$).

Relation to peer preference and friendship status. Next, I examined links between sociometric scores (peer preference and mutual friendship) and self-determined friendship motivation. As expected, a positive correlation was obtained between self-determined friendship motivation and peer preference ($r = .16, p < .01, n = 285$). However, analysis of the data did not reveal a significant correlation between self-determined friendship motivation and number of reciprocated friendships ($r = -.05, p > .05, n = 283$). Furthermore, there was no difference in friendship motivation scores between children who have a mutual best friend ($M = 9.49, SD = 1.81$) and those who don't ($M = 9.51, SD = 1.66$), $t(212) = -0.08, p > .05$.

Relation to quality of relationships with best friend, parents, favourite sibling, favourite relative, and teacher. Next, quality of children's relationships with their best friend, father, mother, favourite sibling, favourite relative, and teacher were examined in relation to their self-determined friendship motivation. Consistent with expectations, a positive correlation was obtained between friendship motivation and a global measure of social support from best friend, parents, and favourite sibling ($r = .36, p < .01, n = 56$).

However, the negative correlation between friendship motivation and a global measure of conflict with best friend, parents, and favourite sibling was not statistically significant ($r = -.09, p > .05, n = 78$).⁶

Relation to loneliness and social dissatisfaction. Finally, I examined the relationship between self-determined friendship motivation and children's loneliness and social dissatisfaction. As expected, a negative correlation was obtained ($r = -.39, p < .01, n = 108$). In other words, children who reported greater self-determined friendship motivation reported fewer feelings of loneliness and social dissatisfaction than children who reported lower self-determined friendship motivation.

In order to determine if loneliness would be better predicted by the interaction between friendship motivation and the presence or absence of a mutual best friend, I formed two extreme groups that consisted of (a) the 25% of children who reported the lowest self-determined friendship motivation (i.e., scores of 8.56 or lower on the FMSC) and (b) the 25% of children who reported the highest self-determined friendship motivation (i.e., scores of 10.83 or higher on the FMSC). I then conducted a 2 (self-determined friendship motivation: low or high) $\times$ 2 (mutual best friendship: yes or no)⁷ analysis of

6

The correlations between friendship motivation and individual subscales (i.e., when calculated separately for each relationship) were: (a) *best friend* .10 ($p > .05$) for social support and $-.03$ ($p > .05$) for conflict, (b) *father* .21 ($p < .05$) for social support and $-.08$ ($p > .05$) for conflict, (c) *mother* .29 ($p < .01$) for social support and $-.09$ ($p > .05$) for conflict, (d) *favorite sibling* .23 ($p < .05$) for social support and $-.02$ ($p > .05$) for conflict, (e) *favorite relative* .23 ($p < .05$) for social support and $-.06$ ($p > .05$) for conflict, and *teacher* .26 ($p < .05$) for social support and $.00$ ($p > .05$) for conflict.

7

In the initial formulation of these two hypotheses (i.e., at the outset of the study), I had planned to compare children who had many reciprocated friends with children who had

variance (ANOVA) with loneliness as the dependent variable (see Table 10 for means and standard deviations). Analysis revealed significant main effects of friendship motivation, $F(1, 31) = 11.95, p < .01$; and, mutual best friendship, $F(1, 31) = 5.76, p < .05$. As expected, the Friendship Motivation $\times$ Mutual Best Friendship interaction was also significant, $F(1, 31) = 5.25, p < .05$. Tests of simple effects revealed that, as hypothesized, children who *have* a best friend and who indicated that they are highly self-determined in their motivation to form friendships reported fewer feelings of loneliness and social dissatisfaction than those who *do not have* a best friend and who indicated that they are highly self-determined in their motivation to form friendships, $t(16) = -3.21, p < .01$. However, contrary to expectations, children who do not have a best friend, and who indicated that they *are not* highly self-determined in their motivation to form friendships, did not report fewer feelings of loneliness and social dissatisfaction than those who do not have a best friend, and who indicated that they *are* highly self-determined in their motivation to form friendships, $t(16) = 1.08, p > .05$.

Gender Differences

As shown in Table 11, multiple regression analyses revealed several gender differences in the relationship between friendship motivation and the other variables (as

few reciprocated friends. However, data revealed that it was impossible to form extreme groups using that variable (i.e., the extreme group of children that had many friends, and who were also in one of the friendship motivation extreme groups, consisted of only 5 children). Given that I had no theoretical or conceptual reasons for choosing one variable over the other, and that extreme groups were available with the mutual best friendship variable, I computed the analyses using that variable. In retrospect, I believe that the mutual best friendship variable is actually a better choice because no arbitrary cut-off is needed (i.e., How many are *many friends* and how few are *few friends*?).

Table 10

Loneliness by self-determined friendship motivation and mutual best friendship

Friendship motivation	Best friend		No best friend	
	M	SD	M	SD
low (bottom 25%)	1.71	0.33	1.74	0.46
high (top 25%)	1.12	0.22	1.59	0.35

Note. Cell sizes range from 8 to 10. Mean scores could range from 1 to 5; higher scores indicating greater feelings of loneliness.

Table 11

Standardized regression coefficients for gender, friendship motivation, and their interaction (independent variables) for each dependent variable

Variable	Gender	Friendship motivation	Interaction
Relationship goal	—	.307**	—
Revenge goal	-.311**	—	—
Control goal	—	—	—
Friendship most important for me	—	-.392**	—
Friendship more important than popularity	-.973*	-.769**	1.189*
Perceived social competence	—	.265*	—
Internal locus of control of social experience	—	.290**	—
Peer preference	—	.125*	.208*
# of reciprocated friendships	-.753*	-.445*	.901*
Social support (NRI)	—	.327**	—
Conflict (NRI)	—	—	—
Loneliness	—	-.360**	—

Note. Only significant coefficients are presented in the Table.

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

evidenced by the statistically significant regression coefficients for the interaction between gender and friendship motivation): (a) the correlation between friendship motivation and agreement with the statement that having one or two good friends is more important than being popular (for boys, $r = .47$, $n = 108$, $p < .01$; for girls, $r = .09$, $n = 96$, $p > .05$; Fisher's $Z = 2.96$, $p < .01$), and (b) the correlation between friendship motivation and peer preference (for boys, $r = .05$, $n = 150$, $p > .05$; for girls, $r = .27$, $n = 135$, $p < .01$; Fisher's $Z = 1.89$, $p < .06$). Furthermore, the nonsignificant correlation between friendship motivation and number of reciprocated friendships appeared to be masking a significant gender difference (for boys, $r = -.16$, $n = 148$, $p < .05$; for girls, $r = .09$, $n = 135$, $p > .05$; Fisher's $Z = 2.09$, $p < .05$). Similarly, the nonsignificant t-test for friendship motivation scores between children who have a mutual best friend and those who don't also appeared to be masking a significant gender difference. Indeed, when computed separately for each gender, results for boys revealed a significant difference in friendship motivation scores between children who have a mutual best friend ($M = 8.92$, $SD = 1.33$) and those who don't ($M = 9.50$, $SD = 1.67$), $t(111) = -2.00$, $p < .05$; whereas results for girls revealed no significant difference in friendship motivation scores between children who have a mutual best friend ($M = 9.97$, $SD = 2.02$) and those who don't ($M = 9.54$, $SD = 1.67$), $t(99) = 1.16$, $p > .05$.

Multivariate Effects

In order to consider the possible overlap of variables, the results of seven hierarchical multiple regression analyses are reported in Appendix J. The multiple regression analyses were limited because, for practical reasons, the FMSC was the only

measure administered to all participants (i.e., regression analyses could only be computed using measures that were all completed by the same participants). For each multiple regression analysis, the main predictors were first entered (Block 1), followed by gender (Block 2), and by the interaction between the main predictors and gender (Block 3). In other words, three models were tested for each multiple regression. The first model included Block 1 only, the second model included both Blocks 1 and 2, and the third model included Blocks 1, 2, and 3. For some analyses, friendship motivation (i.e., self-determination index) was selected as the dependent variable, and variables expected to contribute to friendship motivation (e.g., perception of social competence and locus of control) were specified as independent variables. For other analyses, the independent variables were the four motivation subscales (i.e., intrinsic motivation, identified regulation, external regulation, and amotivation), and the dependent variable was a variable likely to be influenced by friendship motivation (e.g., loneliness). The decision to include either self-determined friendship motivation as a dependent variable or the four motivation subscales as independent variables was based on whether the other variables were perceived by the author as potential predictors or outcomes of friendship motivation. The author does acknowledge that the study's design does not permit causal interpretation and that alternate causal paths are possible. The multiple regressions presented in Appendix J are mostly exploratory and were conducted in order to guide future longitudinal research that may wish to examine the causal links between variables.

As presented in Appendix J, results show that several variables contributed significantly to friendship motivation: (a) perceived social competence, (b) internal locus

of control of social experience, (c) social support from best friend, parents, favourite sibling, favourite relative and teacher, and (d) gender. Results also indicate that the four motivation subtypes contributed in different ways to several variables: (a) loneliness and social dissatisfaction scores were negatively associated with intrinsic motivation, (b) scores on the relationship-maintaining goal were positively associated with intrinsic motivation, identified regulation, and gender (girls scored higher on the relationship goal), and negatively associated with the interaction between identified regulation and gender (correlation between identified regulation and relationship-maintaining goal was significant for boys only), and (c) scores on the revenge goal were positively associated with amotivation and negatively associated with gender (boys scored higher on the revenge goal). Again, the analyses were limited because of the impossibility of including all of those variables in the same model.

CHAPTER IV

DISCUSSION

In this study were described the development and initial psychometric properties of a new self-report instrument (i.e., Friendship Motivation Scale for Children) designed to assess friendship motivation along a self-determination continuum made up of four distinctive, and increasingly self-determined, motivational dimensions (i.e., amotivation, external regulation, identified regulation, and intrinsic motivation). Furthermore, correlates of children's motivation to form friendships were examined: (a) gender, (b) perceived social competence, (c) locus of control in social situations, (d) relationships with best friend, family members, and teacher, (e) social goals within friendships, (f) friendship status, (g) peer preference, and (h) feelings of loneliness and social dissatisfaction.

Psychometric Properties of the FMSC

The results indicate adequate reliability (i.e., internal consistency and test-retest stability), and provide preliminary evidence for the validity of the FMSC. The factor analyses computed separately for each gender confirmed the four-factor structure of the scale and the structure was found to be invariant across gender. The larger variance in amotivation responses for boys compared to girls may suggest that girls are more homogeneous in their reports of amotivation. However, because of the very low variance in amotivation for both boys (.02) and girls (.01), the finding of a greater variance for boys should not be over-interpreted and may not replicate in future studies.

Furthermore, correlations among the four factors supported the underlying theoretical model (i.e., the self-determination continuum), by displaying a simplex correlation pattern. These results parallel those obtained with adult participants in other domains, such as motivation toward sports (Pelletier et al., 1995), education (Vallerand et al., 1989), and interpersonal relationships (Blais et al., 1990). The simplex structure was also evident in the pattern of correlations between motivation subtypes, measures of social goals, and items assessing the global importance of friendships. Thus, the present findings give further empirical support to Deci and Ryan's (1985) self-determination theory by extending the scope of the model to children's friendship motivation.

As expected, positive correlations were obtained between subscales situated at the high end of the self-determination continuum (i.e., intrinsic motivation and identified regulation) and the relationship-maintaining goal, and between subscales situated at the low end of the self-determination continuum (i.e., external regulation and amotivation) and the revenge goal. Furthermore, external regulation correlated positively with the control goal. Thus, the general finding that children who are more self-determined in their motivation to form friendships report a greater desire to maintain their relationship with their friends in situations of conflict (as opposed to seeking revenge) suggests that the FMSC may be a valid measure of children's self-determined friendship motivation.

Multiple regression analyses revealed that motivational subtypes were differentially related to scores on social goals. Indeed, high levels of intrinsic motivation and identified regulation were associated with high scores on the relationship-maintaining goal, while high levels of amotivation were correlated with high scores on the revenge goal. The

finding that no motivational subtype was significantly associated with scores on the control goal may suggest that the operational definition of the control goal (i.e., "I would try to stop my friend from telling me what to do") was too ambiguous to be adequately labelled as a hostile social goal. Indeed, in Rose and Asher's (1999) original version the goal reads: "I would be trying to keep my friend from pushing me around." This wording has a more hostile tone, but does not translate directly to the French language. The wording used in the present study may have been perceived as hostile by some children but as self-affirming by others, thus weakening its multiple correlation with the four motivational subtypes.

The fact that greater self-determined friendship motivation was reported by children who were more in agreement with the statements that "having good relationships with friends is the most important thing for me" and "it is more important to have one or two good friends than to be popular" further confirms the validity of the FMSC. However, an important gender difference was obtained and should not be overlooked: The positive correlation between friendship motivation and agreement with the statement that "it is more important to have one or two good friends than to be popular" was significant for boys only. This finding is difficult to explain. Past studies have shown that boys usually prefer group interaction, whereas girls typically favour dyadic or small-group interaction (Benenson, 1990, 1993; Ladd, 1983). Accordingly, one possible explanation to these findings may be that girls' answers to the popularity item were unrelated to their friendship motivation because of girls' general preference for dyadic interaction. In other words, it is possible that even girls who are not self-determined in their motivation to form friendships prefer engaging at a dyadic level and would value friendship more than popularity within the

larger peer group. In contrast, boys in the present study who reported the lowest levels of self-determination in friendship motivation may have been particularly more likely to state that having one or two good friends is *not* more important than being popular. Future research is needed to determine the contribution of children's preference for dyadic versus group interaction to their friendship motivation.

Although positive correlations were obtained between scores on all four motivation subscales from members of friendship dyads, correlations for identified regulation and for amotivation did not reach statistical significance. Low variance can likely explain the nonsignificant correlation for amotivation scores. Of the 104 members of friendship dyads, 67 (64%) had a score of 1 (the lowest possible score) on the amotivation subscale. Not surprisingly, few members of friendship dyads had high scores on amotivation with regard to forming friends. Variance for the other three subscales was normal, and therefore cannot explain why a nonsignificant correlation was obtained for identified regulation. Perhaps children who value the importance of friendship and of the benefits that friendship can provide to their well-being (i.e., high score on identified regulation) are more indiscriminate when choosing friends. Another explanation is that children may not be able to detect whether or not another child values the importance of friendship, but may more readily identify children that are intrinsically interested in friendship or that use friendships as a way of obtaining external benefits. It is also possible that all correlations would have been stronger had the measure been given to adolescent participants. As noted in Schneider (2000), more superficial commonalities are observed in the friendships of younger children (e.g., age, race, gender), whereas more personality-related similarities (e.g., interests,

attitudes) become increasingly apparent in adolescence. Perhaps similarity in friendship motivation between friends also becomes more important as children mature. Future research may be useful in mapping the evolution of friendship motivation, especially within friendship dyads.

Correlates of Friendship Motivation

Consistent with expectations, girls reported greater self-determined friendship motivation than did boys. This finding is consistent with previous research on social goals that shows that girls tend to choose intimacy and relationship goals more than boys, while boys tend to choose social status goals more than girls (e.g., Ryan et al., 1997). In the FMSC, at least one item appears to be closely related to intimacy and sharing of feelings in relationships (i.e., "Because I find it is a good way to feel better when I am sad"), and at least one item seems to be closely related to social status (i.e., "To be invited to parties"). The former is situated at the higher end of the self-determination continuum, whereas the latter is situated at the lower end of the self-determination continuum. Although many items situated at both ends of the self-determination continuum do not appear to be closely related to either intimacy or social status (e.g., "I do not see why I would like to have friends" or "For the fun times that I share with friends"), the inclusion of some items related to intimacy or social status may partly explain why girls are more self-determined in their motivation to form friendships than boys. Future studies might consider including measures of communal and agentic needs (see Buhrmester, 1996) as possible mediators between gender and self-determined friendship motivation. Because of the conceptual similarities between communal needs (i.e., desire for interpersonal closeness, intimacy) and

Deci and Ryan's (1985) proposed need for relatedness, as well as between agentic needs (i.e., mastery, autonomy) and Deci and Ryan's proposed needs for autonomy and competence, the measure of agentic and communal needs in future studies of children's friendship motivation appears particularly warranted. Finally, although girls reported greater self-determined friendship motivation than boys, it is important to note that both girls and boys generally reported high levels of self-determination in their motivation to form friendships.

The finding that children were mostly self-determined in their motivation to form friendships (i.e., means of 3.37, 3.05, 1.90, and 1.29 out of a possible 4.00 on intrinsic motivation, identified regulation, external regulation, and amotivation respectively) is encouraging and confirms what most parents and teachers already knew intuitively: that most children enjoy and value the presence of friends and do not form friendship because of external reasons or incentives. This observation suggests that forming friendships may be an intrinsically appealing activity for most children. However, not all children were self-determined in their motivation to form friendships. Although the present investigation was not designed to address the question of why some children are not self-determined in their motivation to form friendships, the fact that so many from the present sample endorsed intrinsic and identified motivation items, and that so few endorsed amotivation items, suggests that forming friendships is an activity that has the potential of being intrinsically interesting for all children given the right circumstances. The children in this study that were not self-determined in their motivation to form friendships may not have been fortunate enough to receive the needed supports for competence, autonomy, and

relatedness, as argued in self-determination theory (Deci & Ryan, 1985; Ryan & Deci, 2000). Indeed, Deci and Ryan contend that for activities that are a priori intrinsically interesting (like forming friendships may be for children), individuals who are not intrinsically motivated have probably been affected by social and contextual factors that undermined their needs of competence, autonomy, and relatedness. The positive correlations obtained in this study between self-determined friendship motivation and perceptions of social competence, internal locus of control, and social support from significant others seem to corroborate Deci and Ryan's claim.

As previously stated, the results of this study reveal that self-determined friendship motivation was associated with perceived social competence and internal locus of control in social situations. Furthermore, results from the multiple regression analyses suggest that both perceived social competence and internal locus of control may be important correlates of self-determined friendship motivation. Again, this is consistent with Deci and Ryan's (1985) theory, and the many studies that have followed, proposing that increases in perceived competence and control are accompanied by similar increases in intrinsic motivation. However, causal links between self-determined friendship motivation, perceived social competence, and internal locus of control should be interpreted with caution given the design of the present study. Indeed, because of the impossibility of including all variables within the same model, the unique contribution of each potential predictor may be exaggerated. The identification of causal pathways using a longitudinal research design that permits the inclusion of all relevant variables into a friendship motivation model should be the focus of future research.

The friendship motivation model might include variables expected to contribute more directly to children's level of self-determination in friendship motivation, such as perceived competence in dyadic relationships, locus of causality in interaction with friends, locus of control in friendship conflicts, and support from significant others in the relationship domain. Other predictors that should be included in such a model are history of friendship status and level of satisfaction in past friendship experiences. Past experiences with friends should play a large part in shaping current motivation toward forming new friendships. The friendship motivation model should also include outcome measures of the different levels of self-determination. In addition to the variables measured in this study, self-determined friendship motivation may entail consequences similar to some already identified with adult and elderly populations, such as greater subjective well-being (Kasser & Ryan, 1999), lower levels of depression (Vallerand & O'Connor, 1989), and lower levels of social anxiety (Blais et al., 1990).

As anticipated, children who were preferred by their peers reported greater self-determined friendship motivation. However, subsequent analyses by gender revealed that this was true for girls only. This gender difference is both surprising and difficult to interpret. Because boys' friendships tend to be integrated within larger groups, compared to girls' friendships which are usually smaller in number and more intimate (Maccoby, 1990), peer preference should have greater implications for boys', rather than girls', friendships. Support for this statement is found in a recent study by Zabatany, McDougall, and Hymel (2000) in which peer-group experiences were better predictors of intimacy for boys than for girls. Perhaps some boys who are rejected by their peers actively seek out,

and become motivated for, intimate friendships with other boys in order to compensate for the cognitive and emotional distress associated with peer rejection. This hypothesis is consistent with previous research showing that having a friend may buffer unpopular children from loneliness (Bukowski, Hoza, & Boivin, 1993), although more recent data by Hoza et al. (2000, p. 126) suggest that "a close friendship will not completely compensate for poor group relationships." Nevertheless, this would not explain why the pattern of results for boys was different from that of girls. Is there any reason to believe that unpopular boys might develop a greater intrinsic interest in friendships in order to try to compensate for the negative effects of peer rejection, but that unpopular girls would not? Although it is possible that the consequences of peer rejection are more devastating for boys than for girls (given boys' greater tendency to interact in larger groups), this has yet to be demonstrated.

Positive associations between self-determined friendship motivation and the quality of relationships with best friend, teacher, and family members were predicted. The data suggest that positive aspects of children's relationships with their best friends, teachers, and family members (i.e., companionship, instrumental aid, intimacy, and affection) may be more important contributors to self-determined friendship motivation than negative aspects of such relationships (i.e., conflict). Indeed, it appears that children who receive more social support from friends, teachers, and family members are more likely to report being self-determined in their motivation to form friendships even if there is conflict within those relationships. It may be that conflict is not necessarily deleterious to the quality of those significant relationships if there is a desire to work things out during periods of conflict.

This is consistent with Newcomb and Bagwell's (1995) meta-analysis revealing that conflict is observed as often in friendship dyads than in non-friendship dyads, but that friends tend to be more committed to conflict resolution. Perhaps their finding is also true of other significant relationships in children's lives, such as those with family members and teachers.

Analysis of the data did not reveal links between self-determined friendship motivation and either the presence of a mutual best friend or the number of reciprocated friends. Furthermore, multiple regression analyses revealed that the number of reciprocated friendships was not related to the different motivational subtypes. One possible explanation to these findings is that children who have few reciprocated friendships or no mutual best friendship were unsuccessful at acting upon their self-determined friendship motivation because of other variables, such as poor social skills or social competence (e.g., Asher, Renshaw, & Geraci, 1980; Parker & Seal, 1996; Vaughn, Colvin, Azria, Caya, & Krzysik, 2001).

Despite the plausible explanation of other variables acting as mediators between self-determined friendship motivation and friendship status, the surprising gender differences may have also contributed to the nonsignificant findings. Analyses computed separately for each gender revealed a significant negative relationship between self-determined friendship motivation and number of reciprocated friends for boys. In other words, boys who were more self-determined in their motivation to form friendships actually had *fewer* reciprocated friendships than boys who were less self-determined. In addition, boys who had a mutual best friend reported being significantly *less* self-determined in their

motivation to form friendships than boys who had no mutual best friend. Taken together, these results suggest that self-determined friendship motivation negatively affects friendship status for boys. The results for girls were nonsignificant, but in the opposite direction (i.e., correlations between self-determined friendship motivation and measures of friendship status were positive, although nonsignificant). In an attempt to clarify this finding, I examined post-hoc the multiple regression computed with number of reciprocated friends as the dependent variable. Results showed that despite the nonsignificant model, the interaction between gender and intrinsic motivation was significantly related to the number of reciprocated friends. For boys, the correlation between intrinsic motivation and number of friends was $-.13$ ($p > .05$), whereas for girls it was $.10$ ($p > .05$). However, the difference between those two correlations is not statistically significant (Fisher's $Z = 1.94$, $p > .05$). Attempting to explain why being self-determined to form friendships might lead to lack of friends for boys is difficult. Because these findings were not particularly strong statistically, it may be better to await replication before speculating on their origin.

Consistent with expectations, children who were more self-determined in their motivation to form friendships reported fewer feelings of loneliness and social dissatisfaction than children who were less self-determined in their motivation to form friendships. It was further hypothesized that loneliness would be better predicted by the interaction between friendship motivation and the presence or absence of a mutual best friend. Partial support was obtained for the latter hypothesis: For children who reported high friendship motivation, those who did not have a mutual best friend were more lonely than those who had a mutual best friend (presence or absence of a mutual best friend did

not predict loneliness for children who reported low friendship motivation, as shown in Table 10). However, for children who did not have a mutual best friend, those who were more self-determined in their motivation to form friendships were *not* more lonely than those who were less self-determined in their motivation to form friendships. In other words, of the four extreme groups (i.e., high motivation + mutual best friend; high motivation + no mutual best friend; low motivation + mutual best friend; low motivation + no mutual best friend) children who reported high friendship motivation and who had a mutual best friend were the least lonely, but children who reported high friendship motivation and who did not have a mutual best friend were not the most lonely. Although these findings offer only partial support to Kupersmidt et al.'s (1996) adaptation of Higgins' (1989; Higgins et al., 1986) self-discrepancy theory, they suggest that a measure of the discrepancy between children's friendship motivation and the presence/absence of friends should be included in future studies on children's loneliness.

Of particular interest from the results presented in Table 10 is the finding that having a best friend was not conducive to fewer feelings of loneliness for children with low self-determined friendship motivation. At first glance it appears remarkable that children who (a) do not value friendships, are motivated to form friendships for external reasons and/or do not find friendships to be intrinsically interesting *and* (b) have a best friend are as lonely as children who (a) are intrinsically interested in and/or value the importance of friendships *and* (b) do not have a best friend. Although this finding appears surprising at first, it may actually lend support to Sullivan's (1953) theory that loneliness results out of a failure to satisfy the need for intimacy. It may be argued that children who have friends

for external reasons (e.g., being invited to parties) and who do not find it intrinsically interesting to interact with their friends have friendships that do not satisfy their need for intimacy. In other words, their friendships may be based solely on social status, for example, and they may not engage in communication that is likely to satisfy their intimacy needs (i.e., sharing thoughts, feelings, etc.). Although these children have a best friend, they may not have a close, intimate relationship with that friend and thus feel as lonely as they would if they did not have a best friend. Much might be gained in the understanding of children's loneliness by a qualitative examination of the friendships of children who have low self-determined friendship motivation.

Limitations and Future Directions

To my knowledge, this study is the first to investigate correlates of children's reasons for wanting to form friendships. Although this study has revealed links between children's friendship motivation and several intrapersonal (i.e., social goals; perceived social competence; internal locus of control in social situations; feelings of loneliness and social dissatisfaction) and interpersonal (i.e., relationships with friends, teachers, family members, and the larger peer group) variables, a number of limitations should be noted. The most important limitation is the fact that most of the analyses conducted in this study consisted of correlations between two self-report instruments. Although peer-ratings were used for social preference and mutual friendships, subsequent investigations should also include peer-, sibling-, teacher-, and/or parent-ratings of quality of relationships, social competence, interpersonal behaviour, etc. As mentioned previously, another limitation is that the correlational nature of most results, and the impossibility of including all relevant

variables in the same multiple regression analysis (or better yet, in a SEM model), limit inferences regarding direction of causality or mechanisms that may account for the links between variables. The focus of future research should be the identification of direct and indirect pathways, or mechanisms, explaining the links between friendship motivation and its predictors and/or outcomes. Finally, internal consistency for the conflict scales of the NRI were lower than expected, although combining them across relationships raised the alpha value to an acceptable level.

Although several correlates of children's friendship motivation were identified, the findings might have been even stronger had each measure been given to each participant. For practical reasons, as mentioned previously, the FMSC was the only measure administered to all participants. Sample size was modest for some of the analyses, especially when comparing extreme groups or searching for gender differences, and the multiple regression analyses were limited because of the impossibility of combining some of the variables within the same model.

Another limitation is that the sample included in this study consisted primarily of children from the same ethnic group living in rural or suburban areas. It would be important to replicate the findings by cross-validating them in diverse independent samples in order to determine how representative they are of the general population. Additionally, friendship motivation should be assessed across different developmental levels. This would offer valuable information regarding the stability of the motivational dimensions and, possibly, the evolving change in children's level of self-determined friendship motivation. Some caution must therefore be exercised in interpreting the results or generalizing them

to other groups of children.

The findings concerning the discrepancy between friendship motivation and presence or absence of a mutual best friend might have been stronger had a measure of dyadic loneliness been included, such as Hoza et al.'s (2000) Peer Network and Dyadic Loneliness Scale (PNDLS). The PNDLS assesses "two types of loneliness in the peer context: *peer network loneliness* (i.e., loneliness associated with peer group isolation) and *peer dyadic loneliness* (i.e., loneliness associated with the absence of a close, enduring, emotionally intimate friendship with a specific other peer)." (Hoza et al., 2000, p. 121). Had the PNDLS been available at the time of data collection, it would have been possible to investigate the effects of the previously described discrepancy on peer dyadic loneliness, a type of loneliness that should be of more relevance to friendship motivation.

Another limitation is the possibility that the response format of the FMSC reduced amotivation responses and, consequently, contributed to the obtained skewed distribution in favour of high friendship motivation. Indeed, as discussed by Koestner et al. (1996, p.1028) referring to a measure that was also based on Deci and Ryan's (1985) self-determination theory, "the questions are worded so as to pull for an expression of . . . interest, rather than disinterest. This wording likely contributed to the low scores obtained on the Amotivation subscale." Thus, asking children why they want to have friends may have inadvertently encouraged them not to give reasons why they do not want to have friends. A better wording may have been "Do you want to have friends?," followed by items containing the answer to the question and subsequent justification (e.g., "Yes, because I want to be invited to parties" or "No, because I find it is a waste of time").

Social desirability bias (Crowne & Marlowe, 1960) may also partly explain the obtained skewed distribution in favour of high friendship motivation. Perceiving intrinsic motivation and identified regulation as more adaptive ways of being motivated to form friendships may have (consciously or unconsciously) prompted children to answer in a socially desirable manner, instead of expressing their true feelings. The previously mentioned limitation regarding the response format (question framed in a positive manner) may have further instigated social desirability biases by subtly hinting that it may be better to have friends. Although I attempted to minimize this bias by emphasizing confidentiality and anonymity, a measure of social desirability should be included in future studies.

In retrospect, I believe it was a mistake not to include items measuring introjected regulation. Although the reasons for excluding those items are valid (i.e., keeping the FMSC as short as possible, and the fact that introjection would not have influenced scores on the self-determination index), the benefits of including a subscale measuring introjected regulation would have probably outweighed the disadvantages. Indeed, being motivated to form friends for reasons that are mainly external but that have been partly internalized (e.g., having friends because it would be embarrassing not to have any) may be particularly relevant for children, as they may still be in the process of working out the intricate task of reconciling their own goals and values with those of others. Introjection may uniquely predict specific outcomes related to peer relationships, friendships, or other areas. For example, Koestner and Losier (2002) report that introjected regulation has been found to be related to vulnerability to persuasion in adult populations. Perhaps children that have high levels of introjected regulation in their motivation to form friendships would be more

likely to succumb to influences of peer pressure, or even to allow themselves to be bullied by other children? Thus, having a measure of introjected regulation might lead to further advances not only in knowledge of children's motivation to form friendships but also of the mechanisms that may contribute to deleterious social phenomena, such as bullying and peer pressure. A subscale measuring introjected regulation should be included in future studies.

Additional studies of the psychometric properties of the FMSC are warranted. For instance, it would be important to demonstrate the discriminant validity of the FMSC by obtaining low and insignificant correlations with other motivation measures that are unrelated to friendships. Although the concept is simple, this may prove somewhat difficult with children because of the large influence friendships and peer relationships may have on other aspects of their lives. One example is the important contribution of children's friendships to their school adjustment (Ladd, 1990; Ladd et al., 1996). Ladd and colleagues found that children who had friendships of higher quality were better adjusted at school and enjoyed being at school more than children without friends or with friendships of lower quality. Because of such demonstrated links between friendship quality and school adjustment, attempting to demonstrate the discriminant validity of the FMSC by using a measure of academic motivation is probably not a good idea. Although not yet demonstrated empirically, it is possible that children's friendships contribute to their interest and satisfaction in other domains, such as sports and leisure activities. Thus, it would be important to identify, if possible, areas that are likely to be unaffected (or at least less directly affected) by children's experiences with their friends in order to verify the

discriminant validity of the FMSC.

It may also be useful to examine the predictive validity of the FMSC. Being able to predict future friendship status, quality of future friendships, or even attitudes and behaviours towards peers would greatly enhance the practical utility of the FMSC. Indeed, it would enable the FMSC to help identify children at risk for later relationship difficulties with friends and peers, which may lead to early intervention using techniques such as social skills training (e.g., Oden & Asher, 1977), programs designed to reduce bullying (e.g., Olweus, 1993), and pair therapy (e.g., Selman, Watts, & Schultz, 1997). However, results from the present study suggest that self-determined friendship motivation may not even be related to, let alone be a predictor of, friendship status. Nonetheless, the two variables were measured at the same time and it could be argued that self-determined friendship motivation is a better predictor of future, rather than current, friendship status. Furthermore, it is also possible that self-determined friendship motivation and friendship status would be more related at a later stage of development, such as during middle adolescence. This should be investigated in future longitudinal research.

Self-determined friendship motivation may be a better predictor of the nature of children's friendships or of the behaviours adopted by children when they are with their friends than it is a predictor of friendship status. In other words, although children's level of self-determined friendship motivation may not be related to the number of friends they have or to whether or not they have a best friend, it may be a useful predictor of what type of activities children engage in with their friends. For example, children who are self-determined in their motivation to form friendships may choose friends who are empathic

listeners, who value the importance of friendship, who share similar interests, etc. Conversely, children who are motivated to form friendships for external reasons may be more likely to join groups of friends that have something to offer them (e.g., the possibility of becoming popular). Perhaps more importantly, children who are not self-determined in their motivation to form friendships and who seek revenge in their relationships may be more likely to join groups that can offer the satisfaction of their revenge goals, such as antisocial street gangs. Common school problems such as bullying, or even tragic events such as school shootings by students, may partly result from the combination of being amotivated to form friends and seeking revenge. Further research is needed to determine the contribution of friendship motivation to the type of friends children select and to the type of activities that they engage in with their friends.

A closer look at friendship dyads (i.e., two children identifying each other as best friends) may also lead to a better understanding of the outcomes of friendship motivation. Results from the present study suggest that some, but not all, children seek out friends who value friendships for the same reasons they do. Does being member of a friendship dyad that is either homogeneous or heterogeneous in terms of self-determined friendship motivation lead to different consequences for its members? For example, the discrepancy between being self-determined to form friendships and having a best-friend who is not self-determined may be as predictive of loneliness as the discrepancy between being self-determined to form friendships and not having a best friend. Being member of a friendship dyad that is either homogeneous or heterogeneous in terms of self-determined friendship motivation may also have implications for other important characteristics of friendships,

such as level of satisfaction toward the relationship, willingness to work out disagreements or conflicts, and duration of the friendship. This should be addressed by longitudinal research.

Finally, another goal of future studies should be to explain why some children are more self-determined in their motivation to form friendships than are other children. Longitudinal research could, for example, investigate the hypothesis that children's intrinsic motivation toward forming friendships is either maintained or undermined by social and contextual factors that act upon their needs for competence, autonomy, and relatedness. Examples of variables that could be included in such a study are children's relationships with significant others, their past family history, their past and current experiences with friends, their status within the peer group, and their reports of how competent, autonomous, and related they feel when engaging with these important people in their lives. Repeatedly tracking changes in variables such as those while simultaneously examining if and how children's self-determined friendship motivation evolves over time would be instrumental to our knowledge of both self-determination theory and friendship motivation.

Thus, the FMSC is a useful scale for many reasons. It will enable researchers to study children's friendship motivation, identify factors that are associated with changes in friendship motivation, and identify children at risk for social-psychological difficulties in the interpersonal domain. Furthermore, future research on children's friendship motivation will likely reveal greater potential uses of the scale, perhaps to identify potential candidates for psycho-social intervention, particularly if links are found between friendship motivation and future friendship status, types of activities engaged in with friends, bullying, and other

variables relevant to children's adjustment.

Summary and Concluding Comments

The findings illustrate, first of all, that the FMSC appears to be a valid and reliable measure of children's self-determined friendship motivation. Although additional validation studies are indicated, it appears that the initial psychometric properties of the FMSC, as reported in this paper, justify its use in future studies of children's friendship motivation. Furthermore, the data suggest the existence of several correlates of children's motivation to form friendships. Children who were more self-determined in their motivation to form friendships reported greater perceived social competence, a more internal locus of control, greater social support from family members, teacher, and best friend, and fewer feelings of loneliness and social dissatisfaction. In addition, these children were preferred by their peers. Given these findings, it is particularly encouraging that most children, both girls and boys, were highly self-determined in their motivation to form friendships. Still, some children did report a low level of self-determined friendship motivation. It is likely that the intrinsic motivation of children with low self-determined friendship motivation has been undermined by past and present social experiences (e.g., bad experiences in previous friendships, being teased at school, unsupportive home environment) that thwarted their competence, autonomy, and relatedness needs (see Ryan & Deci, 2000). Nevertheless, more intensive and longitudinal investigations of the characteristics of such children may lead to further advances in understanding the possible causes and consequences of children's motivation to form friendships.

REFERENCES

Aboud, F. E., & Mendelson, M. J. (1996). Determinants of friendship selection and quality: Developmental perspectives. In W. M. Bukowski, A. F. Newcomb, & W. W. Hartup (Eds.), *The company they keep: Friendships in childhood and adolescence*(pp. 87-112). New York: Cambridge University Press.

Abramson, L. Y., Seligman, M. E., & Teasdale, J. D. (1978). Learned helplessness in humans: Critique and reformulation. *Journal of Abnormal Psychology*, 87, 49-74.

Anderson, R., Manoogian, S. T., & Reznick, J. S. (1976). The undermining and enhancing of intrinsic motivation in preschool children. *Journal of Personality and Social Psychology*, 34, 915-922.

Asher, S. R., & Parker, J. G. (1989). The significance of peer relationship problems in childhood. In B. H. Schneider, G. Attili, J. Nadel, & R. P. Weissberg (Eds.), *Social competence in developmental perspective*(pp. 5-23). Dordrecht, The Netherlands: Kluwer Academic.

Asher, S. R., Parker, J. G., & Walker, D. L. (1996). Distinguishing friendship from acceptance: Implications for intervention and assessment. In W. M. Bukowski, A. F. Newcomb, & W. W. Hartup (Eds.), *The company they keep: Friendships in childhood and adolescence*(pp. 366-405). New York: Cambridge University Press.

Asher, S. R., & Renshaw, P. D. (1981). Children without friends: Social knowledge and social skill training. In S. R. Asher & J. M. Gottman (Eds.), *The development of children's friendships* (pp. 273-296). New York: Cambridge University Press.

Asher, S. R., Renshaw, P. D., & Geraci, R. L. (1980). Children's friendships and

social competence. *International Journal of Psycholinguistics*, 7, 27-39.

Asher, S. R., & Wheeler, V. A. (1985). Children's loneliness: A comparison of rejected and neglected peer status. *Journal of Consulting and Clinical Psychology*, 53, 500-505.

Atkinson, J. W., Heyns, R. Q., & Veroff, J. (1954). The effect of experimental arousal of affiliation motive on thematic apperception. *Journal of Abnormal and Social Psychology*, 49, 404-410.

Bagwell, C. L., Newcomb, A. F., & Bukowski, W. M. (1998). Preadolescent friendship and peer rejection as predictors of adult adjustment. *Child Development*, 69, 140-153.

Baker, C. R. (1979). Defining and measuring affiliation motivation. *European Journal of Social Psychology*, 9, 97-99.

Benenson, J. F. (1990). Gender differences in social networks. *Journal of Early Adolescence*, 10, 472-495.

Benenson, J. F. (1993). Greater preference among females than males for dyadic interaction in early childhood. *Child Development*, 64, 544-555.

Bentler, P. M. (1990). Comparative fit indices in structural models. *Psychological Bulletin*, 107, 238-246.

Berndt, T. J. (1996). Exploring the effects of friendships quality on social development. In W. M. Bukowski, A. F. Newcomb, & W. W. Hartup (Eds.), *The company they keep: Friendships in childhood and adolescence* (pp. 346-365). New York: Cambridge University Press.

Blais, M. R., Sabourin, S., Boucher, C., & Vallerand, R. J. (1990). Towards a motivational model of couple happiness. *Journal of Personality and Social Psychology*, 59, 1021-1031.

Boivin, M. (2001). [Longitudinal data on the Social Experience Locus of Control scale]. Unpublished raw data.

Boivin, M., Poulin, F., & Vitaro, F. (1994). Depressed mood and peer rejection in childhood. *Development and Psychopathology*, 6, 483-498.

Bollen, K. A. (1989). *Structural equations with latent variables*. New York: Wiley.

Browne, M. W., & Cudeck, R. (1989). Single sample cross-validation indices for covariance structures. *Multivariate Behavioral Research*, 24, 445-455.

Buhrmester, D. (1996). Need fulfillment, interpersonal competence, and the developmental contexts of early adolescent friendship. In W. M. Bukowski, A. F. Newcomb, & W. W. Hartup (Eds.), *The company they keep: Friendships in childhood and adolescence*(pp. 159-185). New York: Cambridge University Press.

Bukowski, W. M., Boivin, M., & Hoza, B. (1994). Measuring friendship quality during pre- and early adolescence: The development and psychometric properties of the Friendship Qualities Scale. *Journal of Social and Personal Relationships*, 11, 471-484.

Bukowski, W. M., & Hoza, B. (1989). Popularity and friendship: Issues in theory, measurement, and outcome. In T. J. Berndt & G. W. Ladd (Eds.), *Peer relationships in child development*(pp. 15-45). New York: Wiley.

Bukowski, W. M., Hoza, B., & Boivin, M. (1993). Popularity, friendship, and emotional adjustment during early adolescence. In B. Laursen (Vol. Ed.) & W. Damon

(Series Ed.), *New directions for child development: No.60. Close friendships in adolescence* (pp. 23-37). San Francisco, CA: Jossey-Bass.

Bukowski, W. M., Newcomb, A. F., & Hartup, W. W. (Eds.). (1996). *The company they keep: Friendship in childhood and adolescence*. New York: Cambridge University Press.

Byrne, B. M. (1998). *Structural Equation Modeling with LISREL, PRELIS, and SIMPLIS: Basic concepts, applications, and programming*. Mahwah, NJ: Erlbaum.

Byrne, B. M., & Shavelson, R. J. (1987). Adolescent self-concept: Testing the assumption of equivalent structure across gender. *American Educational Research Journal*, 24, 365-385.

Chung, T., & Asher, S. R. (1996). Children's goals and strategies in peer conflict situations. *Merrill-Palmer Quarterly*, 42, 125-147.

Connell, J. P., & Ryan, R. M. (1986). *Autonomy in the classroom: A theory and assessment of children's self-regulatory styles in the academic domain*. Unpublished manuscript, University of Rochester.

Crowne, D. P., & Marlowe, D. (1960). A new scale of social desirability independent of psychopathology. *Journal of Consulting Psychology*, 24, 349-354.

Deci, E. L., Eghrari, H., Patrick, B. C., & Leone, D. R. (1994). Facilitating internalization: The self-determination theory perspective. *Journal of Personality*, 62, 119-142.

Deci, E. L., Koestner, R., & Ryan, R. M. (1999). A meta-analytic review of experiments examining the effects of extrinsic rewards on intrinsic motivation.

Psychological Bulletin, 125, 627-668.

Deci, E. L., & Ryan, R. M. (1985). *Intrinsic Motivation and Self-determination in Human Behavior*. New York: Plenum Press.

Dolgin, K. G., & Kim, S. (1994). Adolescents' disclosure to best and good friends: The effects of gender and topic intimacy. *Social Development*, 3, 146-157.

East, P. L., & Rook, K. S. (1992). Compensatory patterns of support among children's peer relationships: A test using school friends, nonschool friends, and siblings. *Developmental Psychology*, 28, 163-172.

Erdley, C. A., & Asher, S. R. (1996). Children's social goals and self-efficacy perceptions as influences on their responses to ambiguous provocation. *Child Development*, 67, 1329-1344.

Erdley, C. A., Loomis, C. C., Cain, K. M., Dumas-Hines, F., & Dweck, C. S. (1997). Relations among children's social goals, implicit personality theories, and responses to social failure. *Developmental Psychology*, 33, 263-272.

Erwin, P. G. (1985). Similarity of attitudes and constructs in children's friendships. *Journal of Experimental Child Psychology*, 40, 470-485.

Fortier, M. S., Vallerand, R. J., & Guay, F. (1995). Academic motivation and school performance: Toward a structural model. *Contemporary Education Psychology*, 20, 257-274.

Furman, W. (1996). The measurement of friendship perceptions: Conceptual and methodological issues. In W. M. Bukowski, A. F. Newcomb, & W. W. Hartup (Eds.). *The company they keep: Friendship in childhood and adolescence*(pp.41-65). Cambridge:

Cambridge University Press.

Furman, W., & Buhrmester, D. (1985a). Children's perceptions of the personal relationships in their social networks. *Developmental Psychology*, 21, 1016-1022.

Furman, W., & Buhrmester, D. (1985b). Children's perceptions of the qualities of sibling relationships. *Child Development*, 56, 448-461.

Gauvin, L. (1982). *Validation trans-culturelle du perceived competence scale* [Cross-cultural validation of the perceived competence scale]. Unpublished master's thesis. Université de Montréal.

Gottman, J. M. (1983). How children become friends. *Monographs of the Society for Research in Child Development*, 48 (3, Serial No. 202).

Grolnick, W. S., Ryan, R. M., & Deci, E. L. (1991). Inner resources for school achievement: Motivational mediators of children's perceptions of their parents. *Journal of Educational Psychology*, 83, 508-517.

Guay, F., Vallerand, R. J., & Blanchard, C. (2000). On the assessment of situational intrinsic and extrinsic motivation: The Situational Motivation Scale (SIMS). *Motivation & Emotion*, 24, 175-213.

Guilbert, D. J. (1990). *Évaluation psychométrique du concept de soi chez les enfants d'âge scolaire* [Psychometric assessment of self-concept in school-aged children]. Unpublished master's thesis. Université du Québec à Montréal.

Guttman, L. (1969). A new approach to factor analysis: The radex. In P. F. Lazarsfeld, *Mathematical thinking in the social sciences* (pp. 258-348). New York: Russel & Russel.

Harter, S. (1982). The perceived competence scale for children. *Child Development*, 53, 87-97.

Hartup, W. W. (1983). Peer relations. In E. M. Hetherington (Ed.), *Handbook of child psychology: Vol. 4, Socialization, personality, and social development* (pp. 103-198). New York: Wiley.

Higgins, E. T. (1989). Self-discrepancy theory: What patterns of self-beliefs cause people to suffer? *Advances in Experimental Social Psychology*, 22, 93-136.

Higgins, E. T., Bond, R. N., Klein, R., & Strauman, T. (1986). Self-discrepancy and emotional vulnerability: How magnitude, accessibility, and type of discrepancy influence affect. *Journal of Personality and Social Psychology*, 51, 5-15.

Howes, C. (1996). The earliest friendships. In W. M. Bukowski, A. F. Newcomb, & W. W. Hartup (Eds.). *The company they keep: Friendship in childhood and adolescence* (pp. 66-86). Cambridge: Cambridge University Press.

Hoza, B., Bukowski, W. M., & Beery, S. (2000). Assessing peer network and dyadic loneliness. *Journal of Clinical Child Psychology*, 29, 119-128.

Hu, L. T., & Bentler, P. M. (1995). Evaluating Model Fit. In R. H. Hoyle (Ed.), *Structural Equation Modeling: Concepts, issues, and applications* (pp. 76-99). Thousand Oaks, CA: Sage.

Jarvinen, D. W., & Nicholls, J. G. (1996). Adolescents' social goals, beliefs about the causes of social success, and satisfaction in peer relations. *Developmental Psychology*, 32, 435-441.

Jöreskog, K. G., & Sörbom, D. (1993). *LISREL 8*. Chicago, IL: Scientific Software

International.

Jöreskog, K. G., & Sörbom, D. (1996). *Lisrel 8: User's reference guide*. Chicago,

Il: Scientific Software International.

Kasser, V. G., Ryan, R. M. (1999). The relation of psychological needs for autonomy and relatedness to vitality, well-being, and mortality in a nursing home. *Journal of Applied Social Psychology*, 29, 935-954.

Koestner, R., & Losier, G. F. (2002). Distinguishing three ways of being highly motivated: A closer look at introjection, identification, and intrinsic motivation. In E. L. Deci & R. M. Ryan (Eds.). *Handbook of self-determination research* (pp. 101-121). Rochester, NY: University of Rochester Press.

Koestner, R., Losier, G. F., Vallerand, R. J., & Carducci, D. (1996). Identified and introjected forms of political internalization: Extending self-determination theory. *Journal of Personality and Social Psychology*, 70, 1025-1036.

Kupersmidt, J. B., Buchele, K. S., Voegler, M. E., & Sedikides, C. (1996). Social self-discrepancy: A theory relating peer relations problems and school maladjustment. In J. Juvonen & K. R. Wentzel (Eds.), *Social Motivation: Understanding children's school adjustment* (pp. 66-97). New York: Cambridge University Press.

Ladd, G. W. (1983). Social networks of popular, average, and rejected children in school settings. *Merrill-Palmer Quarterly*, 29, 283-307.

Ladd, G. W. (1990). Having friends, keeping friends, making friends, and being liked by peers in the classroom: Predictors of children's early school adjustment? *Child Development*, 61, 1081-1090.

Ladd, G. W., Kochenderfer, B. J., & Coleman, C. C. (1996). Friendship quality as a predictor of young children's early school adjustment. *Child Development*, 67, 1103-1118.

Larose, S., & Roy, R. (1994). *Le réseau social : Un soutien potentiel à la transition secondaire-collégiale* [The social network: A possible support to the transition between high-school and college]. Cégep de Ste-Foy : Coop étudiante.

Lewin, K. (1938). *The conceptual representation and the measurement of psychological forces*. Durham, N.C.: Duke University Press.

Lochman, J. E., Wayland, K., & White, K. (1993). Social goals: Relationship to adolescent adjustment and to social problem solving. *Journal of Abnormal Child Psychology*, 21, 135-151.

Locke, E. A. (1968). Toward a theory of task motivation and incentives. *Organizational Behavior and Human Performance*, 3, 157-189.

Losier, G. F., Perreault, S., Koestner, R., & Vallerand, R. J. (2001). Examining individual differences in the internalization of political values: Validation of the self-determination scale of political motivation. *Journal of Research in Personality*, 35, 41-61.

Maccoby, E. E. (1990). Gender and relationships: A developmental Account. *American Psychologist*, 45, 513-520.

McAdams, D. P. (1980). A thematic coding system for the intimacy motive. *Journal of Research in Personality*, 14, 413-432.

McAdams, D. P. (1985). Motivation and friendship. In S. Duck & D. Perlman (Eds.), *Understanding personal relationships* (pp. 85-105). London: SAGE Publications

Inc.

McAdams, D. P., Healy, S., & Krause, S. (1984). Social motives and patterns of friendship. *Journal of Personality and Social Psychology*, 47, 828-838.

McAdams, D. P., & Losoff, M. (1984). Friendship motivation in fourth and sixth graders: A thematic analysis. *Journal of Social and Personal Relationships*, 1, 11-27.

McClelland, D. C., Atkinson, J. W., Clark, R. A., & Lowell, E. L. (1953). *The achievement motive*. New York: Appleton-Century-Crofts.

McCoy, J., Brody, G., & Stoneman, Z. (1994). Longitudinal analysis of sibling relationships as mediators of the link between family processes and youth's best friendships. *Family Relations*, 43, 400-408.

Mendelson, M., Aboud, F., & Lanthier, R. (1994). Kindergartner's relationships with siblings, peers, and friends. *Merrill Palmer Quarterly*, 40, 416-435.

Murray, H. A. (1938). *Explorations in personality*. New York: Oxford University Press.

Murray, H. A. (1943). *The Thematic Apperception Test*. Cambridge, MA: Harvard University Press.

Muthén, B., & Kaplan, D. (1985). A comparison of methodologies for the factor analysis of non-normal Likert variables. *British Journal of Mathematical and Statistical Psychology*, 38, 171-189.

Newcomb, A. F., & Bagwell, C. L. (1995). Children's friendship relations: A meta-analytic review. *Psychological Bulletin*, 117, 306-347.

Newcomb, A. F., & Bagwell, C. L. (1996). The developmental significance of

children's friendship relations. In W. M. Bukowski, A. F. Newcomb, & W. W. Hartup (Eds.), *The company they keep: Friendships in childhood and adolescence* (pp. 289-321). New York: Cambridge University Press.

Oden, S., & Asher, S. R. (1977). Coaching children in social skills for friendship making. *Child Development*, 48, 495-506.

Olweus, D. (1993). *Bullying at school: What we know and what we can do*. Oxford: Blackwell.

Parker, J. G., & Asher, S. R. (1993a). Beyond group acceptance: Friendship adjustment and friendship quality as distinct dimensions of children's peer adjustment. In D. Perlman & W. H. Jones (Eds.), *Advances in personal relationships* (Vol. 4, pp. 261-294). London: Kingsley.

Parker, J. G., & Asher, S. R. (1993b). Friendship and friendship quality in middle childhood: links with peer group acceptance and feelings of loneliness and social dissatisfaction. *Developmental Psychology*, 29, 611-621.

Parker, J. G., & Seal, J. (1996). Forming, losing, renewing, and replacing friendships: Applying temporal parameters to the assessment of children's friendship experiences. *Child Development*, 67, 2248-2268.

Pelletier, L. G., Fortier, M. S., Vallerand, R. J., Tuson, K. M., Brière, N. M., & Blais, M. R. (1995). Toward a new measure of intrinsic motivation, extrinsic motivation, and amotivation in sports: The Sport Motivation Scale (SMS). *Journal of Sport and Exercise Psychology*, 17, 35-54.

Pelletier, L. G., Tuson, K. M., Green-Demers, I., Noels, K., & Beaton, A. (1998).

Why are you doing things for the environment? The motivation towards the environment scale (MTES). *Journal of Applied Social Psychology*, 28, 437-468.

Pelletier, L. G., Vallerand, R. J., Green-Demers, I., Blais, M. R., & Brière, N. M. (1995). Loisirs et santé mentale : Les relations entre la motivation pour la pratique des loisirs et le bien-être psychologique [Leisure and mental health: Relationships between leisure motivation and psychological well-being]. *Canadian Journal of Behavioral Sciences*, 27, 140-156.

Pierrehumbert, B., Plancherel, B., & Jankech-Caretta, C. (1987). Image de soi et perception des compétences propres chez l'enfant : Présentation d'un questionnaire recent d'estime de soi pour enfants [Self-image and sense of competence in children: Presentation of a recent self-esteem questionnaire for children]. *Revue de Psychologie Appliquée*, 37, 359-377.

Rabiner, D. L., & Gordon, L. V. (1992). The coordination of conflicting social goals: Differences between rejected and nonrejected boys. *Child Development*, 63, 1344-1350.

Renshaw, P. D., & Asher, S. R. (1982). Social competence and peer status: The distinction between goals and strategies. In K. H. Rubin & H. S. Ross (Eds.), *Peer relationships and social skills in childhood* (pp. 375-395). New York: Springer-Verlag.

Renshaw, P. D., & Asher, S. R. (1983). Children's goals and strategies for social interaction. *Merrill-Palmer Quarterly*, 29, 353-374.

Rose, A. J., & Asher, S. R. (1999). Children's goals and strategies in response to conflicts within a friendship. *Developmental Psychology*, 35, 69-79.

Rotter, J. B. (1966). Generalized expectancies for internal versus external control of reinforcement. *Psychological Monographs*, 80, 1-28.

Ryan, A. M., Hicks, L., & Midgley, C. (1997). Social goals, academic goals, and avoiding seeking help in the classroom. *Journal of Early Adolescence*, 17, 152-171.

Ryan, R. M. (1995). Psychological needs and the facilitation of integrative processes. *Journal of Personality*, 63, 397-427.

Ryan, R. M., & Connell, J. P. (1989). Perceived locus of causality and internalization: Examining reasons for acting in two domains. *Journal of Personality and Social Psychology*, 57, 749-761.

Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55, 68-78.

Ryan, R. M., Connell, J. P., & Grolnick, W. S. (1992). When achievement is not intrinsically motivated: A theory of self-regulation in school. In A. K. Boggiano & T. S. Pittman (Eds.), *Achievement and motivation: A social-developmental perspective* (pp. 167-188). New York: Cambridge University Press.

Ryan, R. M., & Stiller, J. (1991). The social contexts of internalization: Parent and teacher influences on autonomy, motivation, and learning. In M. L. Maehr & P. R. Pintrich (Eds.), *Advances in motivation and achievement: A research annual (Vol. 7)* (pp. 115-149). London: JAI Press.

Schneider, B. H. (2000). *Friends and Enemies: Peer relations in childhood*. New York: Oxford University Press.

Schneider, B. H., Fonzi, A., Tani, F., & Tomada, G. (1997). A cross-cultural exploration of the stability of children's friendships and predictors of their continuation. *Social Development, 6*, 322-339.

Selman, R. L., Watts, C. L., & Schultz, L. H. (Eds.). (1997). *Fostering friendship: Pair therapy for treatment and prevention*. New York: Aldine De Gruyter.

Slaby, R. G., & Guerra, N. G. (1988). Cognitive mediators of aggression in adolescent offenders: 1. Assessment. *Developmental Psychology, 24*, 580-588.

Stocker, C., & Dunn, J. (1990). Sibling relationships in childhood: Links with friendships and peer relations. *British Journal of Developmental Psychology, 8*, 227-244.

Strauman, T. J., & Higgins, E. T. (1987). Automatic activation of self-discrepancies and emotional syndromes: When cognitive structures influence affect. *Journal of Personality and Social Psychology, 53*, 1004-1014.

Sullivan, H. S. (1953). *The interpersonal theory of psychiatry*. New York: Norton.

Taylor, A. R., & Asher, S. R. (1984). Children's goals and social competence: Individual differences in a game-playing context. In T. Field, J. L. Roopnarine, & M. Segal (Eds.), *Friendships in normal and handicapped children* (pp. 53-77). Norwood, NJ: Ablex.

Tolman, E. C. (1932). *Purposive behavior in animals and men*. New York: Appleton-Century-Crofts.

Vallerand, R. J., Blais, M. R., Brière, N. M., & Pelletier, L. G. (1989). Construction et validation de l'Échelle de Motivation en Éducation [Construction and Validation of the Academic Motivation Scale]. *Canadian Journal of Behavioral Sciences, 21*, 323-349.

Vallerand, R. J., & O'Connor, B. P. (1989). Motivation in the elderly: A theoretical

framework and some promising findings. *Canadian Psychology*, 30, 538-550.

Vallerand, R. J., & Reid, G. (1984). On the causal effects of perceived competence on intrinsic motivation: A test of cognitive evaluation theory. *Journal of Sport Psychology*, 6, 94-102.

van Aken, M. A., & Asendorf, J. B. (1997). Support by parents, classmates, friends and siblings in preadolescence: Covariation and compensation across relationships. *Journal of Social and Personal Relationships*, 14, 79-93.

Vaughn, B. E., Colvin, T. N., Azria, M. R., Caya, L., Krzysik, L. (2001). Dyadic analyses of friendship in a sample of preschool-age children attending Head Start: Correspondence between measures and implications for social competence. *Child Development*, 72, 862-878.

Weiss, R. (1986). Continuities and transformations in social relationships from childhood to adulthood. In W. Hartup & Z. Rubin (Eds.), *Relationships and development* (pp.95-110). Hillsdale, NJ: Erlbaum.

Zarbatany, L., McDougall, P., & Hymel, S. (2000). Gender-differentiated experience in the peer culture: Links to intimacy in preadolescence. *Social Development*, 9, 62-79.

Appendix A

INFORMATION LETTER SENT TO PARENTS

Chers parents,

Le but général de notre recherche est d'examiner les motivations des élèves de cinquième, sixième et septième années envers la formation et le maintien d'amitiés avec leurs pairs dans le contexte scolaire. L'école forme un lieu de socialisation et de développement très marquant dans la vie des enfants. Malheureusement, plusieurs recherches démontrent que de 20% à 30% des élèves d'âge scolaire vivent des problèmes importants d'ajustement dans les salles de classe. Ces problèmes peuvent se traduire en difficultés émotionnelles, relationnelles et professionnelles plus tard dans la vie de l'enfant. Le niveau d'ajustement et de réussite scolaire d'un enfant dépendent en grande partie de la qualité du support reçu des personnes dans son entourage. De ces sources de support, les relations avec les pairs sont particulièrement importantes dans la vie de l'enfant. Un grand nombre de recherches révèlent que la qualité des relations des élèves avec leurs pairs est liée de façon significative à l'absentéisme, l'insatisfaction et le décrochage scolaire à l'adolescence. Il est probable que le type de relation entretenu par l'enfant avec ses pairs agit comme source de stress ou de support pour celui-ci, suscitant ainsi une bonne ou une mauvaise adaptation scolaire. De plus, les enfants en manque d'amis ont moins d'occasions pour développer leurs habiletés sociales et scolaires, ce qui risque de diminuer leur intérêt, leur implication et leur performance à l'école. Certaines recherches démontrent même que les enfants qui développent de bonnes amitiés à l'école forment une perception plus positive de leur milieu éducatif et obtiennent de meilleurs résultats académiques.

L'objectif plus spécifique pour la présente recherche est de déterminer pourquoi certains enfants sont plus motivés que d'autres à former et à maintenir des amitiés avec leurs pairs, ainsi que d'identifier quels sont les liens entre le niveau de motivation de l'enfant et les caractéristiques de ses relations sociales avec ses amis, sa famille et ses enseignants. Étant donné l'importance des amis dans la vie personnelle, sociale et scolaire des enfants, ainsi que le manque de connaissances sur leur motivation à l'amitié, la recherche proposée permettra aux chercheurs, aux enseignants et aux parents de mieux connaître les facteurs qui motivent les enfants à former et à maintenir des amitiés avec leurs pairs. La cueillette de données impliquera des enfants de la cinquième à la septième année du district scolaire 1 du Nouveau-Brunswick. La cueillette s'effectuera dans la classe et les questions seront administrés en groupe pour une durée totale de 45 minutes par classe. Les questions permettent d'obtenir de l'information sur la nature de la motivation des enfants à la formation et au maintien d'amitiés, ainsi que sur les autres relations sociales importantes dans leurs vies.

Agréer, chers parents, l'expression de nos sentiments distingués.

Jacques Richard, M.A.Ps.

Barry Schneider, Ph.D.

École de Psychologie

Université d'Ottawa

Appendix B

CONSENT FORM SENT TO PARENTS

Jacques F. Richard, M.A.Ps.
Barry H. Schneider, Ph.D.
École de Psychologie
Université d'Ottawa

Je (nous), _____, suis (sommes) d'accord pour que mon (notre) enfant participe à l'étude sur la motivation à l'amitié menée par Jacques Richard, étudiant au doctorat, et supervisé par le Dr Barry Schneider, professeur en psychologie à l'Université d'Ottawa. L'objectif de l'étude est d'avoir une meilleure compréhension de la motivation des enfants à la formation et au maintien d'amitiés avec leurs pairs.

Si votre enfant participe à cette étude, il assistera à une session de groupe de 45 minutes (en classe) pendant laquelle il répondra à plusieurs questions sur la façon qu'il perçoit ses amitiés, ainsi que les autres personnes importantes dans sa vie. Les réponses écrites seront conservées sous clé dans le laboratoire du chercheur et ne seront accessibles qu'aux personnes impliquées dans la recherche. Les noms des enfants seront enlevés des textes et remplacés par des codes. Le contenu des réponses ne sera utilisé que pour des fins de recherche et dans le respect de la confidentialité. Aucune information se rapportant à votre enfant en particulier ne sera divulguée.

La participation de votre enfant à cette étude est strictement volontaire et il peut se retirer au moment où il le désire, sans encourir de pénalisation sous aucune forme. S'il est mal à l'aise avec une question particulière, il peut refuser d'y répondre. Nous vous assurons que l'information partagée restera strictement confidentielle. Il y a deux copies de ce formulaire de consentement, dont l'une que le responsable de la recherche va conserver et une autre que vous conservez.

Pour tout renseignement supplémentaire ou question, vous pouvez communiquer avec Jacques Richard au (506) 384-8451.

_____ Nous consentons à ce que notre enfant participe à la recherche.

_____ Nous ne consentons pas à ce que notre enfant participe à la recherche.

SIGNATURE DU(DES) PARENT(S):

DATE: _____

SIGNATURE DU(DES) CHERCHEUR(S):

DATE: _____

MERCI POUR VOTRE COLLABORATION

Appendix C

CHILD ASSENT FORM

Jacques F. Richard, M.A.Ps.
 Barry H. Schneider, Ph.D.
 École de Psychologie
 Université d'Ottawa
 (613) 562-5800 x4455

Je, _____, suis intéressé(e) à participer à l'étude sur les amitiés menée par Jacques Richard, étudiant au doctorat, et supervisé par le Dr Barry Schneider, professeur en psychologie à l'Université d'Ottawa. Le but de l'étude est de mieux comprendre ce qui motive les enfants à se faire des ami(e)s. Si tu participes à cette étude, tu assisteras à une rencontre de 45 minutes dans la classe pendant laquelle tu répondras à plusieurs questions sur la façon que tu perçois tes ami(e)s et les autres personnes importantes dans ta vie. Tes réponses écrites seront conservées sous clé dans le bureau à Jacques et ne seront pas montrées à personne autre que Jacques et son superviseur. Les noms des enfants seront enlevés des textes et remplacés par des codes.

La décision de participer à l'étude est prise par toi et tu peux arrêter à n'importe quel moment sans être obligé de dire pourquoi et sans qu'il t'arrive quelque chose de négatif. Si tu ne veux pas répondre à une ou plusieurs questions, tu peux refuser d'y répondre. **Ton nom ne paraîtra sur aucun document et seules les réponses globales du groupe seront considérées.** Il y a deux copies de cette lettre, dont une pour Jacques et une pour toi.

Si tu veux d'autres informations, tu peux téléphoner à Jacques au (613) 562-5800 x4455.

_____ J'accepte de participer à la recherche.

_____ Je n'accepte pas de participer à la recherche.

SIGNATURE DU(DE LA)
 PARTICIPANT(E): _____

DATE: _____

SIGNATURE DES CHERCHEURS: _____

DATE: _____

MERCI POUR TA COLLABORATION

Appendix D

FRIENDSHIP MOTIVATION SCALE FOR CHILDREN

POURQUOI VEUX-TU AVOIR DES AMI(E)S ?

Nous aimerions savoir pourquoi tu veux avoir des ami(e)s. Coche la case qui est la réponse la plus vraie pour toi.

1) Pour le plaisir que je ressens lorsque je parle avec des ami(e)s.

- | | | | |
|---|--|--|--|
| ☐ pas du tout
comme moi | ☐ un peu
comme moi | ☐ beaucoup
comme moi | ☐ exactement
comme moi |
|---|--|--|--|

2) Parce que mes professeurs trouvent que c'est important d'avoir des ami(e)s.

- | | | | |
|---|--|--|--|
| ☐ pas du tout
comme moi | ☐ un peu
comme moi | ☐ beaucoup
comme moi | ☐ exactement
comme moi |
|---|--|--|--|

3) Parce que je pense que ça me fait du bien d'avoir des ami(e)s.

- | | | | |
|---|--|--|--|
| ☐ pas du tout
comme moi | ☐ un peu
comme moi | ☐ beaucoup
comme moi | ☐ exactement
comme moi |
|---|--|--|--|

4) Je trouve que je perds mon temps en essayant d'avoir des ami(e)s.

- | | | | |
|---|--|--|--|
| ☐ pas du tout
comme moi | ☐ un peu
comme moi | ☐ beaucoup
comme moi | ☐ exactement
comme moi |
|---|--|--|--|

5) Parce que je trouve que c'est un bon moyen de me sentir mieux lorsque je suis triste.

- | | | | |
|---|--|--|--|
| ☐ pas du tout
comme moi | ☐ un peu
comme moi | ☐ beaucoup
comme moi | ☐ exactement
comme moi |
|---|--|--|--|

6) Pour être invité à des fêtes.

- | | | | |
|---|--|--|--|
| ☐ pas du tout
comme moi | ☐ un peu
comme moi | ☐ beaucoup
comme moi | ☐ exactement
comme moi |
|---|--|--|--|

7) Pour le plaisir que j'ai à faire des choses intéressantes avec des ami(e)s.

- ☐ pas du tout
comme moi
- ☐ un peu
comme moi
- ☐ beaucoup
comme moi
- ☐ exactement
comme moi

8) Je ne vois pas pourquoi je voudrais avoir des ami(e)s.

- ☐ pas du tout
comme moi
- ☐ un peu
comme moi
- ☐ beaucoup
comme moi
- ☐ exactement
comme moi

9) Parce que je trouve que ça m'aide à mieux exprimer mes opinions.

- ☐ pas du tout
comme moi
- ☐ un peu
comme moi
- ☐ beaucoup
comme moi
- ☐ exactement
comme moi

10) Je pense qu'avoir des ami(e)s n'apporte pas grand chose à ma vie.

- ☐ pas du tout
comme moi
- ☐ un peu
comme moi
- ☐ beaucoup
comme moi
- ☐ exactement
comme moi

11) Pour être le centre d'attention.

- ☐ pas du tout
comme moi
- ☐ un peu
comme moi
- ☐ beaucoup
comme moi
- ☐ exactement
comme moi

12) Pour les moments amusants que je passe avec des ami(e)s.

- ☐ pas du tout
comme moi
- ☐ un peu
comme moi
- ☐ beaucoup
comme moi
- ☐ exactement
comme moi

Items for each subscale:

- INTINSIC MOTIVATION: 1 - 7 - 12
- IDENTIFIED REGULATION: 3 - 5 - 9
- EXTERNAL REGULATION: 2 - 6 - 11
- AMOTIVATION: 4 - 8 - 10

Appendix E
SOCIAL GOALS

MES BUTS

Nous aimerions savoir quels seraient tes buts dans les situations suivantes. Indique jusqu'à quel point tu serais d'accord avec les buts indiqués.

1. Toi et ton ami(e) venez de terminer de jouer à un jeu que tu avais choisi et que tu aimes beaucoup. Tu veux jouer encore au même jeu, mais ton ami(e) ne veut pas et dit que c'est à son tour de choisir un jeu. [Maintaining reciprocity]

⇒ "J'essayerais de rester ami(e)s" *[Relationship]*

☐ pas d'accord ☐ un peu d'accord ☐ assez d'accord ☐ très d'accord ☐ beaucoup d'accord

⇒ "J'essayerais de trouver une solution égale pour les deux" *[Moral]*

☐ pas d'accord ☐ un peu d'accord ☐ assez d'accord ☐ très d'accord ☐ beaucoup d'accord

⇒ "J'essayerais d'empêcher mon ami(e) de me dire quoi faire" *[Control]*

☐ pas d'accord ☐ un peu d'accord ☐ assez d'accord ☐ très d'accord ☐ beaucoup d'accord

⇒ "J'essayerais de lui faire la même chose qu'il(elle) m'a fait" *[Revenge]*

☐ pas d'accord ☐ un peu d'accord ☐ assez d'accord ☐ très d'accord ☐ beaucoup d'accord

2. Tu fais tes devoirs dans la bibliothèque et un(e) ami(e) te demande de l'aider avec ses devoirs dans une autre matière. Tu dis à ton ami(e) que tu es occupé(e), mais il(elle) insiste pour que tu l'aide. [Helping a friend in need]

⇒ "J'essayerais de rester ami(e)s"

☐ pas d'accord ☐ un peu d'accord ☐ assez d'accord ☐ très d'accord ☐ beaucoup d'accord

⇒ "J'essayerais de trouver une solution égale pour les deux"

☐ pas d'accord ☐ un peu d'accord ☐ assez d'accord ☐ très d'accord ☐ beaucoup d'accord

⇒ “J’essayerais d’empêcher mon ami(e) de me dire quoi faire”

☐ pas d'accord ☐ un peu d'accord ☐ assez d'accord ☐ très d'accord ☐ beaucoup d'accord

⇒ “J’essayerais de lui faire la même chose qu’il(elle) m’a fait”

☐ pas d'accord ☐ un peu d'accord ☐ assez d'accord ☐ très d'accord ☐ beaucoup d'accord

3. Tu avais décidé d’aller au cinéma avec ton ami(e) samedi après-midi, mais ensuite tu es invité(e) à une fête organisée en même temps par un(e) élève que tu aimes beaucoup. Ton ami(e) n’a pas été invité(e) et veut toujours aller au cinéma avec toi. *[Being a reliable partner]*

⇒ “J’essayerais de rester ami(e)s”

☐ pas d'accord ☐ un peu d'accord ☐ assez d'accord ☐ très d'accord ☐ beaucoup d'accord

⇒ “J’essayerais de trouver une solution égale pour les deux”

☐ pas d'accord ☐ un peu d'accord ☐ assez d'accord ☐ très d'accord ☐ beaucoup d'accord

⇒ “J’essayerais d’empêcher mon ami(e) de me dire quoi faire”

☐ pas d'accord ☐ un peu d'accord ☐ assez d'accord ☐ très d'accord ☐ beaucoup d'accord

⇒ “J’essayerais de lui faire la même chose qu’il(elle) m’a fait”

☐ pas d'accord ☐ un peu d'accord ☐ assez d'accord ☐ très d'accord ☐ beaucoup d'accord

4. Tu fais un casse-tête pendant la récréation. Tu as travaillé très fort et le casse-tête est presque fini. Ton ami(e) prend les morceaux qui restent et veut faire le casse-tête avec toi. Tu lui dis que tu veux le finir par toi-même et tu lui demande de te donner les morceaux, mais il(elle) ne veut pas. [Managing disagreements over resources]

⇒ “J’essayerais de rester ami(e)s”

☐ pas d'accord ☐ un peu d'accord ☐ assez d'accord ☐ très d'accord ☐ beaucoup d'accord

⇒ “J’essayerais de trouver une solution égale pour les deux”

☐ pas d'accord ☐ un peu d'accord ☐ assez d'accord ☐ très d'accord ☐ beaucoup d'accord

⇒ “J’essayerais d’empêcher mon ami(e) de me dire quoi faire”

☐ pas d'accord ☐ un peu d'accord ☐ assez d'accord ☐ très d'accord ☐ beaucoup d'accord

⇒ “J’essayerais de lui faire la même chose qu’il(elle) m’a fait”

☐ pas d'accord ☐ un peu d'accord ☐ assez d'accord ☐ très d'accord ☐ beaucoup d'accord

Appendix F

PERCEIVED COMPETENCE SCALE FOR CHILDREN

(FRENCH-CANADIAN VERSION)

COMMENT SUIS-JE ?

Coche la case qui est la réponse la plus vraie pour toi. Tu dois choisir seulement UNE réponse par question.

C'est vraiment moi	C'est un peu moi	CERTAINS JEUNES	MAIS	D'AUTRES JEUNES	C'est un peu moi	C'est vraiment moi
☐	☐	Certains jeunes trouvent qu'ils font très bien leur travail d'école	-1- MAIS	D'autres jeunes ont peur de ne pas pouvoir faire le travail qui leur est donné	☐	☐
☐	☐	Certains jeunes trouvent que c'est difficile de se faire des amis	-2- MAIS	Pour d'autres jeunes c'est plus facile	☐	☐
☐	☐	Certains jeunes trouvent qu'ils sont très bons dans toutes sortes de sports	-3- MAIS	D'autres ne se trouvent pas très bons	☐	☐
☐	☐	Certains jeunes trouvent qu'il y a beaucoup de choses qu'ils changeraient à propos d'eux-mêmes s'ils le pouvaient	-4- MAIS	D'autres jeunes aimeraient rester à peu près comme ils le sont	☐	☐

☐	☐	Certains jeunes pensent qu'ils sont aussi intelligents que ceux de leur âge	-5- MAIS	D'autres jeunes ne sont pas si sûrs et se demandent s'ils sont aussi intelligents	☐	☐
☐	☐	Certains jeunes ont de nombreux amis	-6- MAIS	D'autres jeunes n'ont pas beaucoup d'amis	☐	☐
☐	☐	Certains jeunes aimeraient être beaucoup mieux dans les sports	-7- MAIS	D'autres jeunes trouvent qu'ils sont déjà assez bons	☐	☐
☐	☐	Certains jeunes sont assez sûrs d'eux-mêmes	-8- MAIS	D'autres jeunes ne sont pas très sûrs d'eux-mêmes	☐	☐
☐	☐	Certains jeunes prennent beaucoup de temps à finir leurs travaux à l'école	-9- MAIS	D'autres jeunes font leur travaux scolaires rapidement	☐	☐
☐	☐	Certains jeunes ne pensent pas qu'ils sont des personnes très importantes dans leur classe	-10- MAIS	D'autres jeunes pensent qu'ils sont très importants pour leur compagnons de classe	☐	☐

☐	☐	Certains jeunes pensent qu'ils pourraient très bien réussir à presque n'importe quels nouveaux jeux d'extérieur	-11- MAIS	D'autres jeunes ont peur de ne pas pouvoir bien réussir à des jeux d'extérieur qu'ils n'ont jamais essayés	☐	☐
☐	☐	Certains jeunes aiment bien la façon dont ils agissent	-12- MAIS	D'autres jeunes aimeraient pouvoir agir différemment	☐	☐
☐	☐	Certains jeunes oublient souvent ce qu'ils ont appris	-13- MAIS	D'autres jeunes peuvent se souvenir de plusieurs choses facilement	☐	☐
☐	☐	Certains jeunes font toujours des activités en compagnie de beaucoup d'autres jeunes	-14- MAIS	D'autres font habituellement des activités seuls	☐	☐
☐	☐	Certains jeunes croient qu'ils sont meilleurs dans les sports que les autres de leur âge	-15- MAIS	D'autres jeunes ne pensent pas qu'ils sont capables de jouer aussi bien que les autres de leur âge	☐	☐
☐	☐	Certains jeunes pensent qu'ils ne sont peut-être pas de très bonnes personnes	-16- MAIS	D'autres jeunes sont à peu près sûrs qu'ils sont de bonnes personnes	☐	☐

☐	☐	Certains jeunes aiment l'école parce qu'ils réussissent bien en classe	-17- MAIS	D'autres jeunes n'aiment pas l'école parce qu'ils ne réussissent pas très bien en classe	☐	☐
☐	☐	Certains jeunes voudraient être aimés par plus de jeunes	-18- MAIS	D'autres jeunes pensent que la plupart des jeunes les aiment	☐	☐
☐	☐	Dans les jeux et les sports certains jeunes ont l'habitude de regarder plutôt que de jouer	-19- MAIS	D'autres jeunes ont l'habitude de jouer plutôt que de seulement regarder	☐	☐
☐	☐	Certains jeunes sont très heureux d'être comme ils sont	-20- MAIS	D'autres jeunes voudraient être différents	☐	☐
☐	☐	Certains jeunes aimeraient que ce soit plus facile de comprendre ce qu'ils lisent	-21- MAIS	D'autres jeunes n'ont pas de difficulté à comprendre ce qu'ils lisent	☐	☐
☐	☐	Certains jeunes sont populaires avec d'autres personnes de leur âge	-22- MAIS	D'autres jeunes ne sont pas très populaires avec d'autres personnes de leur âge	☐	☐

☐	☐	Certains jeunes ne réussissent pas bien à de nouveaux jeux d'extérieur	-23- MAIS	D'autres jeunes sont bons tout de suite	☐	☐
☐	☐	Certains jeunes ne sont pas très contents de la façon qu'ils font beaucoup de choses	-24- MAIS	D'autres jeunes pensent que la façon qu'ils font les choses est bonne	☐	☐
☐	☐	Certains jeunes ont de la difficulté à trouver les solutions à l'école	-25- MAIS	D'autres jeunes peuvent presque toujours trouver les solutions	☐	☐
☐	☐	Certains jeunes sont vraiment faciles à aimer	-26- MAIS	D'autres jeunes sont plus difficiles à aimer	☐	☐
☐	☐	Certains jeunes sont parmi les derniers à être choisis pour des jeux	-27- MAIS	D'autres jeunes sont habituellement choisis les premiers	☐	☐
☐	☐	Certains jeunes sont habituellement sûrs que ce qu'ils font est bien	-28- MAIS	D'autres jeunes n'en sont pas aussi sûrs	☐	☐

Items for each subscale:

- COGNITIVE COMPETENCE: 1 - 5 - 9 - 13 - 17 - 21 - 25
- SOCIAL COMPETENCE: 2 - 6 - 10 - 14 - 18 - 22 - 26
- PHYSICAL COMPETENCE: 3 - 7 - 11 - 15 - 19 - 23 - 27
- GENERAL SELF-WORTH: 4 - 8 - 12 - 16 - 20 - 24 - 28

Appendix G

SOCIAL EXPERIENCE LOCUS OF CONTROL

VIRGULE ET MAJUSCULE

Coche la case qui est la réponse la plus vraie pour toi. Tu dois choisir seulement UNE réponse par question.

C'est vrai- ment moi	C'est un peu moi	Virgule	Majuscule	C'est un peu moi	C'est vrai- ment moi
☐	☐	1. Si un enfant du même âge décide de frapper Virgule ou Majuscule		☐	☐
		Virgule croit qu'il(elle) peut faire plusieurs choses pour l'arrêter	MAIS Majuscule croit qu'il(elle) ne peut pas faire grand chose pour l'arrêter		
☐	☐	2. Si un enfant de la classe n'aime pas Virgule ou Majuscule		☐	☐
		Virgule pense qu'il(elle) ne peut rien faire pour corriger ça	MAIS Majuscule pense qu'il(elle) peut faire plusieurs choses pour corriger ça		
☐	☐	3. Pour être choisi(e) comme meilleur(e) ami(e)		☐	☐
		Virgule pense qu'il(elle) n'a pas grand chose à faire	MAIS Majuscule pense qu'il(elle) peut faire plusieurs choses		
☐	☐	4. Quand un enfant du même âge crie des noms à Virgule ou Majuscule		☐	☐
		Virgule pense qu'il(elle) n'a pas grand chose à faire pour changer ça	MAIS Majuscule pense qu'il(elle) peut faire plusieurs choses pour changer ça		

☐	☐	5. Si un enfant de la classe n'aime pas Virgule ou Majuscule			☐	☐
		Virgule pense qu'il(elle) n'a pas grand chose à faire pour être aimé(e) de tous les enfants	MAIS	Majuscule pense qu'il(elle) peut faire plusieurs choses pour être aimé(e) de tous les enfants		
☐	☐	6. Quand des choses désagréables risquent d'arriver à Virgule ou Majuscule			☐	☐
		Virgule pense qu'il(elle) n'a rien à faire pour les empêcher de se produire	MAIS	Majuscule pense qu'il(elle) peut faire quelque chose pour les empêcher de se produire		
☐	☐	7. Si quelqu'un ne veut pas jouer avec Virgule ou Majuscule			☐	☐
		Virgule croit qu'il(elle) peut faire quelque chose pour changer ça	MAIS	Majuscule croit qu'il(elle) ne peut rien faire pour changer ça		
☐	☐	8. Si ça va mal pour Virgule ou Majuscule			☐	☐
		Virgule pense qu'il(elle) peut faire quelque chose pour corriger la situation	MAIS	Majuscule pense qu'il(elle) ne peut pas faire grand chose pour corriger la situation		

Appendix H

**NETWORK OF RELATIONSHIPS INVENTORY
(FRENCH-CANADIAN VERSION)**

Encerle le numéro de la case qui est la réponse la plus vraie pour toi. Réponds seulement pour les personnes qui sont PRÉSENTEMENT dans ta vie.

1. Combien de temps libre passes-tu avec (CES PERSONNES)?

	Peu ou pas du tout	Un peu	Beaucoup	Vraiment beaucoup	La plupart du temps
Mère	1	2	3	4	5
Père	1	2	3	4	5
Gr.-parent, tante ou oncle préf.	1	2	3	4	5
Professeur	1	2	3	4	5
Ami-e plus proche même sexe	1	2	3	4	5
Soeur ou frère préféré	1	2	3	4	5

2. Jusqu'à quel point toi et (CES PERSONNES) êtes en colère l'une après l'autre?

	Peu ou pas du tout	Un peu	Beaucoup	Vraiment beaucoup	La plupart du temps
Mère	1	2	3	4	5
Père	1	2	3	4	5
Gr.-parent, tante ou oncle préf.	1	2	3	4	5
Professeur	1	2	3	4	5
Ami-e plus proche même sexe	1	2	3	4	5
Soeur ou frère préféré	1	2	3	4	5

3. Jusqu'à quel point (CES PERSONNES) t'enseignent-elles à faire des choses que tu ne savais pas?

	Peu ou pas du tout	Un peu	Beaucoup	Vraiment beaucoup	La plupart du temps
Mère	1	2	3	4	5
Père	1	2	3	4	5
Gr.-parent, tante ou oncle préf.	1	2	3	4	5
Professeur	1	2	3	4	5
Ami-e plus proche même sexe	1	2	3	4	5
Soeur ou frère préféré	1	2	3	4	5

4. Jusqu'à quel point parles-tu de n'importe quoi à (CES PERSONNES)?

	Peu ou pas du tout	Un peu	Beaucoup	Vraiment beaucoup	La plupart du temps
Mère	1	2	3	4	5
Père	1	2	3	4	5
Gr.-parent, tante ou oncle préf.	1	2	3	4	5
Professeur	1	2	3	4	5
Ami-e plus proche même sexe	1	2	3	4	5
Soeur ou frère préféré	1	2	3	4	5

5. Jusqu'à quel point (CES PERSONNES) t'aiment-elles ou t'apprécient-elles?

	Peu ou pas du tout	Un peu	Beaucoup	Vraiment beaucoup	La plupart du temps
Mère	1	2	3	4	5
Père	1	2	3	4	5
Gr.-parent, tante ou oncle préf.	1	2	3	4	5
Professeur	1	2	3	4	5
Ami-e plus proche même sexe	1	2	3	4	5
Soeur ou frère préféré	1	2	3	4	5

6. Jusqu'à quel point as-tu du plaisir avec (CES PERSONNES)?

	Peu ou pas du tout	Un peu	Beaucoup	Vraiment beaucoup	La plupart du temps
Mère	1	2	3	4	5
Père	1	2	3	4	5
Gr.-parent, tante ou oncle préf.	1	2	3	4	5
Professeur	1	2	3	4	5
Ami-e plus proche même sexe	1	2	3	4	5
Soeur ou frère préféré	1	2	3	4	5

7. Jusqu'à quel point toi et (CES PERSONNES) êtes-vous en désaccord ou vous querellez-vous?

	Peu ou pas du tout	Un peu	Beaucoup	Vraiment beaucoup	La plupart du temps
Mère	1	2	3	4	5
Père	1	2	3	4	5
Gr.-parent, tante ou oncle préf.	1	2	3	4	5
Professeur	1	2	3	4	5
Ami-e plus proche même sexe	1	2	3	4	5
Soeur ou frère préféré	1	2	3	4	5

8. Jusqu'à quel point (CES PERSONNES) t'aident-elles à comprendre ou à résoudre certaines choses?

	Peu ou pas du tout	Un peu	Beaucoup	Vraiment beaucoup	La plupart du temps
Mère	1	2	3	4	5
Père	1	2	3	4	5
Gr.-parent, tante ou oncle préf.	1	2	3	4	5
Professeur	1	2	3	4	5
Ami-e plus proche même sexe	1	2	3	4	5
Soeur ou frère préféré	1	2	3	4	5

9. Jusqu'à quel point partages-tu tes secrets et tes sentiments personnels avec (CES PERSONNES)?

	Peu ou pas du tout	Un peu	Beaucoup	Vraiment beaucoup	La plupart du temps
Mère	1	2	3	4	5
Père	1	2	3	4	5
Gr.-parent, tante ou oncle préf.	1	2	3	4	5
Professeur	1	2	3	4	5
Ami-e plus proche même sexe	1	2	3	4	5
Soeur ou frère préféré	1	2	3	4	5

10. Jusqu'à quel point (CES PERSONNES) portent-elles attention à toi?

	Peu ou pas du tout	Un peu	Beaucoup	Vraiment beaucoup	La plupart du temps
Mère	1	2	3	4	5
Père	1	2	3	4	5
Gr.-parent, tante ou oncle préf.	1	2	3	4	5
Professeur	1	2	3	4	5
Ami-e plus proche même sexe	1	2	3	4	5
Soeur ou frère préféré	1	2	3	4	5

11. Jusqu'à quel point fais-tu des activités agréables avec (CES PERSONNES)?

	Peu ou pas du tout	Un peu	Beaucoup	Vraiment beaucoup	La plupart du temps
Mère	1	2	3	4	5
Père	1	2	3	4	5
Gr.-parent, tante ou oncle préf.	1	2	3	4	5
Professeur	1	2	3	4	5
Ami-e plus proche même sexe	1	2	3	4	5
Soeur ou frère préféré	1	2	3	4	5

12. Jusqu'à quel point toi et (CES PERSONNES) argumentez-vous l'un-e avec l'autre?

	Peu ou pas du tout	Un peu	Beaucoup	Vraiment beaucoup	La plupart du temps
Mère	1	2	3	4	5
Père	1	2	3	4	5
Gr.-parent, tante ou oncle préf.	1	2	3	4	5
Professeur	1	2	3	4	5
Ami-e plus proche même sexe	1	2	3	4	5
Soeur ou frère préféré	1	2	3	4	5

13. Jusqu'à quel point (CES PERSONNES) t'aident-elles lorsque tu dois faire quelque chose?

	Peu ou pas du tout	Un peu	Beaucoup	Vraiment beaucoup	La plupart du temps
Mère	1	2	3	4	5
Père	1	2	3	4	5
Gr.-parent, tante ou oncle préf.	1	2	3	4	5
Professeur	1	2	3	4	5
Ami-e plus proche même sexe	1	2	3	4	5
Soeur ou frère préféré	1	2	3	4	5

14. Jusqu'à quel point parles-tu de choses avec (CES PERSONNES) que tu ne veux pas que d'autres sachent?

	Peu ou pas du tout	Un peu	Beaucoup	Vraiment beaucoup	La plupart du temps
Mère	1	2	3	4	5
Père	1	2	3	4	5
Gr.-parent, tante ou oncle préf.	1	2	3	4	5
Professeur	1	2	3	4	5
Ami-e plus proche même sexe	1	2	3	4	5
Soeur ou frère préféré	1	2	3	4	5

15. Jusqu'à quel point (CES PERSONNES) t'aiment-elles ou sont-elles ton ami-e?

	Peu ou pas du tout	Un peu	Beaucoup	Vraiment beaucoup	La plupart du temps
Mère	1	2	3	4	5
Père	1	2	3	4	5
Gr.-parent, tante ou oncle préf.	1	2	3	4	5
Professeur	1	2	3	4	5
Ami-e plus proche même sexe	1	2	3	4	5
Soeur ou frère préféré	1	2	3	4	5

Items for each subscale:

- COMPANIONSHIP: 1 - 6 - 11
- CONFLICT: 2 - 7 - 12
- INSTRUMENTAL AID: 3 - 8 - 13
- INTIMACY: 4 - 9 - 14
- AFFECTION: 5 - 10 - 15

Appendix I

**LONELINESS AND SOCIAL DISSATISFACTION QUESTIONNAIRE
(FRENCH-CANADIAN VERSION)**

À PROPOS DE TOI

Coche la case qui est la réponse la plus vraie pour toi.

1) C'est facile pour moi de me faire de nouveaux (nouvelles) ami(e)s à l'école.

☐ pas très vrai ☐ un peu vrai ☐ assez vrai ☐ très vrai

2) J'aime lire.

☐ pas très vrai ☐ un peu vrai ☐ assez vrai ☐ très vrai

3) Je n'ai personne à qui parler dans la classe.

☐ pas très vrai ☐ un peu vrai ☐ assez vrai ☐ très vrai

4) Je suis bon(ne) pour travailler avec les autres enfants de ma classe.

☐ pas très vrai ☐ un peu vrai ☐ assez vrai ☐ très vrai

5) Je regarde beaucoup la télévision.

☐ pas très vrai ☐ un peu vrai ☐ assez vrai ☐ très vrai

6) C'est difficile pour moi de me faire des ami(e)s à l'école.

☐ pas très vrai ☐ un peu vrai ☐ assez vrai ☐ très vrai

7) J'aime l'école.

☐ pas très vrai ☐ un peu vrai ☐ assez vrai ☐ très vrai

8) J'ai beaucoup d'ami(e)s dans ma classe.

☐ pas très vrai ☐ un peu vrai ☐ assez vrai ☐ très vrai

9) Je me sens seul(e) à l'école.

☐ pas très vrai ☐ un peu vrai ☐ assez vrai ☐ très vrai

10) Je peux trouver un(e) ami(e) dans ma classe quand j'en ai besoin d'un(e).

☐ pas très vrai ☐ un peu vrai ☐ assez vrai ☐ très vrai

11) Je pratique beaucoup les sports.

☐ pas très vrai ☐ un peu vrai ☐ assez vrai ☐ très vrai

12) C'est difficile de trouver dans ma classe des compagnons (compagnes) qui m'aiment.

☐ pas très vrai ☐ un peu vrai ☐ assez vrai ☐ très vrai

13) J'aime les sciences (mathématiques, etc.).

☐ pas très vrai ☐ un peu vrai ☐ assez vrai ☐ très vrai

14) Je n'ai personne avec qui jouer à l'école.

☐ pas très vrai ☐ un peu vrai ☐ assez vrai ☐ très vrai

15) J'aime la musique.

☐ pas très vrai ☐ un peu vrai ☐ assez vrai ☐ très vrai

16) Je m'entends bien avec mes compagnons (compagnes) de classe.

☐ pas très vrai ☐ un peu vrai ☐ assez vrai ☐ très vrai

17) Je me sens mis(e) de côté de ce qui se passe à l'école.

☐ pas très vrai ☐ un peu vrai ☐ assez vrai ☐ très vrai

18) Il n'y a pas d'autres enfants que je peux aller voir quand j'ai besoin d'aide à l'école.

☐ pas très vrai ☐ un peu vrai ☐ assez vrai ☐ très vrai

19) J'aime peindre et dessiner.

☐ pas très vrai ☐ un peu vrai ☐ assez vrai ☐ très vrai

20) Je ne m'entends pas avec les autres enfants à l'école.

☐ pas très vrai ☐ un peu vrai ☐ assez vrai ☐ très vrai

21) Je suis seul(e) à l'école.

☐ pas très vrai ☐ un peu vrai ☐ assez vrai ☐ très vrai

22) Je suis bien aimé(e) par les compagnons (compagnes) dans ma classe.

☐ pas très vrai ☐ un peu vrai ☐ assez vrai ☐ très vrai

23) J'aime beaucoup jouer à des jeux de société (monopoly, etc.).

☐ pas très vrai ☐ un peu vrai ☐ assez vrai ☐ très vrai

24) Je n'ai pas d'ami(e)s dans ma classe.

☐ pas très vrai ☐ un peu vrai ☐ assez vrai ☐ très vrai

Appendix J

MULTIPLE REGRESSION ANALYSES

Multiple regression analysis with friendship motivation as the dependent variable, and (a) perceived social competence, (b) internal locus of control of social experience, and (c) gender as predictors

Model Summary

Model	R	R ²	Adj. R ²	Stand. Error	R ² change	Sig.	F	Sig.
1	0.31	0.09	0.07	1.46	----	----	4.36	<i>p</i> <.05
2	0.37	0.14	0.11	1.43	0.04	<i>p</i> <.05	4.44	<i>p</i> <.01
3	0.40	0.16	0.11	1.43	0.02	<i>p</i> >.05	3.08	<i>p</i> <.05

Standardized Regression Coefficients and Semi-Partial Correlations

Model	β	Sig.	Semi-Partial Corr.
1 (a) perceived social competence	.21	<i>p</i> <.05	.21
(b) internal locus of control	.18	<i>p</i> >.05	.18
2 (a) perceived social competence	.21	<i>p</i> <.05	.21
(b) internal locus of control	.20	<i>p</i> <.05	.20
(c) gender	.21	<i>p</i> <.05	.21

Note. *N* = 84.

Multiple regression analysis with friendship motivation as the dependent variable, and (a) social support (NRI), (b) conflict (NRI), and (c) gender as predictors

Model Summary

Model	R	R ²	Adj. R ²	Stand. Error	R ² change	Sig.	F	Sig.
1	0.38	0.14	0.11	1.70	----	----	4.27	<i>p</i> <.05
2	0.43	0.18	0.13	1.68	0.04	<i>p</i> >.05	3.74	<i>p</i> <.05
3	0.46	0.21	0.13	1.68	0.03	<i>p</i> >.05	2.52	<i>p</i> <.05

Standardized Regression Coefficients and Semi-Partial Correlations

Model	β	Sig.	Semi-Partial Corr.
1 (a) social support	.37	<i>p</i> <.01	.36
(b) conflict	-.19	<i>p</i> >.05	-.18

Note. *N* = 66.

Multiple regression analysis with loneliness as the dependent variable, and (a) intrinsic motivation, (b) identified regulation, (c) external regulation, (d) amotivation, and (e) gender as predictors

Model Summary

Model	R	R ²	Adj. R ²	Stand. Error	R ² change	Sig.	F	Sig.
1	0.42	0.18	0.15	0.16	----	----	5.54	<i>p</i> <.01
2	0.44	0.20	0.16	0.16	0.02	<i>p</i> >.05	4.94	<i>p</i> <.01
3	0.50	0.25	0.18	0.15	0.05	<i>p</i> >.05	3.60	<i>p</i> <.01

Standardized Regression Coefficients and Semi-Partial Correlations

Model	β	Sig.	Semi-Partial Corr.
1 (a) Intrinsic Motivation	-.25	<i>p</i> <.05	-.20
(b) Identified Regulation	-.17	<i>p</i> >.05	-.13
(c) External Regulation	.02	<i>p</i> >.05	.01
(d) Amotivation	.10	<i>p</i> >.05	.09

Note. *N* = 108.

Multiple regression analysis with the number of reciprocated friends as the dependent variable, and (a) intrinsic motivation, (b) identified regulation, (c) external regulation, (d) amotivation, and (e) gender as predictors

Model Summary

Model	R	R ²	Adj. R ²	Stand. Error	R ² change	Sig.	F	Sig.
1	0.09	0.01	-0.01	1.41	----	----	0.59	<i>p</i> >.05
2	0.09	0.01	-0.01	1.41	0.00	<i>p</i> >.05	0.50	<i>p</i> >.05
3	0.19	0.04	0.01	1.40	0.03	<i>p</i> >.05	1.15	<i>p</i> >.05

Note. *N* = 283.

Multiple regression analysis with the relationship-maintaining goal as the dependent variable, and (a) intrinsic motivation, (b) identified regulation, (c) external regulation, (d) amotivation, and (e) gender as predictors

Model Summary

Model	R	R ²	Adj. R ²	Stand. Error	R ² change	Sig.	F	Sig.
1	0.49	0.24	0.21	0.96	----	----	8.05	<i>p</i> <.01
2	0.53	0.28	0.24	0.94	0.04	<i>p</i> <.05	7.79	<i>p</i> <.01
3	0.60	0.36	0.31	0.90	0.09	<i>p</i> <.05	6.23	<i>p</i> <.01

Standardized Regression Coefficients and Semi-Partial Correlations

Model	β	Sig.	Semi-Partial Corr.
1 (a) Intrinsic Motivation	.34	<i>p</i> <.01	.27
(b) Identified Regulation	.22	<i>p</i> <.05	.17
(c) External Regulation	.03	<i>p</i> >.05	.02
(d) Amotivation	.11	<i>p</i> >.05	.09
2 (a) Intrinsic Motivation	.34	<i>p</i> <.01	.27
(b) Identified Regulation	.17	<i>p</i> >.05	.13
(c) External Regulation	.07	<i>p</i> >.05	.06
(d) Amotivation	.12	<i>p</i> >.05	.10
(e) Gender	.21	<i>p</i> <.05	.20

Model	β	Sig.	Semi-Partial Corr.
3 (a) Intrinsic Motivation	.49	$p > .05$	.12
(b) Identified Regulation	.82	$p < .05$	.21
(c) External Regulation	.41	$p > .05$	.11
(d) Amotivation	-.26	$p > .05$	-.09
(e) Gender	2.24	$p < .01$	.28
(f) Interaction between (a) & (e)	-.13	$p > .05$	-.01
(g) Interaction between (b) & (e)	-1.45	$p < .05$	-.17
(h) Interaction between (c) & (e)	-.40	$p > .05$	-.09
(i) Interaction between (d) & (e)	.69	$p > .05$	.09

Note. $N = 105$.

Multiple regression analysis with the control goal as the dependent variable, and (a) intrinsic motivation, (b) identified regulation, (c) external regulation, (d) amotivation, and (e) gender as predictors

Model Summary

Model	R	R ²	Adj. R ²	Stand. Error	R ² change	Sig.	F	Sig.
1	0.24	0.06	0.02	1.39	----	----	1.60	<i>p</i> >.05
2	0.29	0.09	0.04	1.38	0.03	<i>p</i> >.05	1.92	<i>p</i> >.05
3	0.35	0.12	0.04	1.38	0.03	<i>p</i> >.05	1.49	<i>p</i> >.05

Note. N = 108.

Multiple regression analysis with the revenge goal as the dependent variable, and (a) intrinsic motivation, (b) identified regulation, (c) external regulation, (d) amotivation, and (e) gender as predictors

Model Summary

Model	R	R ²	Adj. R ²	Stand. Error	R ² change	Sig.	F	Sig.
1	0.31	0.10	0.06	0.26	----	----	2.78	<i>p</i> <.05
2	0.43	0.19	0.15	0.25	0.09	<i>p</i> <.01	4.61	<i>p</i> <.01
3	0.46	0.21	0.14	0.25	0.03	<i>p</i> >.05	2.91	<i>p</i> <.01

Standardized Regression Coefficients and Semi-Partial Correlations

Model	β	Sig.	Semi-Partial Corr.
1 (a) Intrinsic Motivation	-.04	<i>p</i> >.05	-.03
(b) Identified Regulation	.00	<i>p</i> >.05	.00
(c) External Regulation	.14	<i>p</i> >.05	.12
(d) Amotivation	.23	<i>p</i> <.05	.19
2 (a) Intrinsic Motivation	-.03	<i>p</i> >.05	-.03
(b) Identified Regulation	.07	<i>p</i> >.05	.06
(c) External Regulation	.08	<i>p</i> >.05	.07
(d) Amotivation	.22	<i>p</i> <.05	.19
(e) Gender	-.31	<i>p</i> <.01	-.30

Note. *N* = 107.