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LA RÉUSSITE SCOLAIRE ET LES COMPÉTENCES SOCIO-AFFECTIVES DES ÉLÈVES AU DÉBUT DE L'ÉCOLE PRIMAIRE : LES MÉTHODES D'ÉVALUATION ET LES FACTEURS ASSOCIÉS

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LISTE DES ABRÉVIATIONS, SIGLES ET ACRONYMES

EE (TRS)	Échelle d'appréciation remplie par l'enseignant (Teacher rating scale)
IFA (SFI)	Inventaire familial autorapporté (Self-report family inventory)
LICO	Statistics Canada's before-tax Low-Income Cut-Off
MELS	Ministère de l'Éducation, du Loisir et du Sport
PSI-SF	Short form of the Parenting Stress Index
SCBE	Social Competence and Behavior Evaluation Scale
SCBE-30	Social Competence and Behavior Evaluation Scale – Short form
TFM (MLT)	Tests de rendement scolaire standardisés en français et en mathématiques (Mathematics and literacy achievement tests)
TSS (SAT)	Tests de rendement scolaire standardisés (Standardised achievement tests)
WPPSI-R	Wechsler Preschool and Primary Scale of Intelligence – Revised

RÉSUMÉ

La présente thèse s'intéresse à la réussite des élèves en début de scolarisation. Plus précisément, elle s'attarde sur les qualités psychométriques de deux mesures de la réussite scolaire des jeunes enfants; elle étudie les caractéristiques personnelles et familiales des enfants résilients sur le plan scolaire; enfin elle examine les associations possibles entre le profil socio-affectif des écoliers et le fonctionnement familial. Elle utilise un devis longitudinal s'étendant sur 18 mois – de la maternelle jusqu'à la fin de la première année du primaire. L'échantillon initial est composé de 321 enfants (154 garçons, 167 filles) ayant fréquenté des classes de maternelle dans la région de l'Estrie. Les données ont été recueillies à l'aide de tests soumis aux enfants ainsi que de questionnaires remplis par leurs parents et enseignants.

Cette thèse comporte trois articles. Le premier s'intéresse aux qualités psychométriques de deux mesures portant sur le rendement scolaire des enfants, soit l'échelle d'appréciation remplie par l'enseignant (EE), et les tests de rendement scolaire standardisés en français et en mathématiques (TFM) administrés aux enfants. Notre objectif était de vérifier la validité de ces deux mesures au moyen de critères externes recueillis à la maternelle, et aussi d'évaluer la présence de possibles biais liés aux caractéristiques de la famille, de l'enfant et de l'enseignant. Les résultats indiquent que les critères externes (à savoir, la préparation scolaire des enfants et le statut socioéconomique de la famille) peuvent expliquer la variance des deux mesures étudiées. Toutefois, ces critères externes expliquent significativement plus de variance de l'EE que des TFM. De plus, en ce qui concerne la présence de biais, les résultats suggèrent que l'EE est plus sensible aux niveaux de compétences sociales des enfants, tandis que les TFM semblent plus touchés par les niveaux d'anxiété des élèves.

Le deuxième article s'attarde sur la résilience scolaire dans un contexte de pauvreté. L'objectif consiste à identifier les attributs personnels et parentaux, à la maternelle, qui pourraient caractériser les enfants résilients, c'est-à-dire qui réussissent à la fin de la première année du primaire en dépit du faible statut socio-économique de leurs familles. En comparant ces enfants avec ceux provenant de milieux plus aisés, nous avons identifié la présence d'attributs personnels et parentaux spécifiques aux enfants résilients sur le plan scolaire. Les résultats indiquent que le fait d'avoir, à l'âge préscolaire, de bonnes habiletés sociales, moins de comportements agressifs et un faible niveau de stress parental, favorise particulièrement la réussite des enfants exposés à la pauvreté. Les enfants ayant réussi leur première année scolaire avaient

des scores de quotient intellectuel (QI) plus élevés à la maternelle que leurs pairs non compétents sur le plan scolaire, indépendamment de leur revenu familial. En général, les attributs personnels et parentaux des enfants résilients étaient à des niveaux comparables à ceux provenant de familles aisées.

Le troisième article étudie l'association entre les différents aspects du fonctionnement familial à l'âge préscolaire et les compétences socio-affectives des enfants à la fin de leur première année du primaire. Les résultats indiquent que les enfants issus de familles plus cohésives (c'est-à-dire, ayant une bonne proximité émotionnelle entre les membres) démontrent plus de compétences sociales, tandis que les enfants provenant de familles aux relations plus conflictuelles sont davantage susceptibles de présenter de comportements d'agressivité et d'irritabilité à l'école. En somme, les résultats suggèrent que certains aspects du fonctionnement familial pourraient être associés aux habiletés des enfants à réguler leurs émotions et à établir et maintenir des relations avec leurs pairs et les enseignants, au début de leur scolarisation.

Pour conclure, le dernier chapitre de cette thèse propose une discussion générale sur les résultats exposés dans les trois articles, ainsi que sur les implications théoriques et cliniques pouvant en découler. Les différentes forces et limites de cette thèse, ainsi que les futures avenues qu'elle offre à la recherche, sont également abordées.

Mots-clés : fonctionnement familial, habiletés socio-affectives, habiletés cognitives, réussite scolaire, méthodes d'évaluation, jugement de l'enseignant, stress parental, résilience scolaire.

CHAPITRE I

INTRODUCTION

INTRODUCTION

La réussite scolaire fait partie des grands défis des pays industrialisés. L'accès à l'éducation pour quasiment tous les enfants est certes assuré dans ces pays mais un problème majeur demeure : celui des obstacles qui empêchent certains enfants d'achever leurs études. Au Québec, la réussite scolaire est devenue une véritable préoccupation au début des années 90, alors que le phénomène de l'abandon scolaire s'amplifiait et que de plus en plus de jeunes de 19 ans se retrouvaient sans certificats de fin d'études. Depuis, plusieurs mesures ministérielles ont été adoptées, comme les plans d'actions « Chacun ses devoirs » (Ministère de l'Éducation, du Loisir et du Sport [MELS], 1992) ou « Faire avancer l'école » (MELS, 1993), visant à favoriser l'autonomie du réseau scolaire dans la lutte contre le décrochage scolaire. Ces actions relèvent du « Plan Pagé » dont l'objectif était d'atteindre un taux de diplomation au secondaire de 80 %, sur cinq ans, chez les jeunes de moins de vingt ans. Malheureusement, après vingt ans, cet objectif n'est toujours pas atteint : en 2011-2012, 73% des jeunes (8 % de plus qu'en 1991) ont obtenu leur diplôme avant l'âge de 20 ans (MELS, 2013). La réforme qui prend place dans le système scolaire québécois poursuit l'ambitieuse mission d'assurer la réussite du plus grand nombre d'élèves. À cette fin, cette nouvelle politique cherche à adapter les services scolaires aux besoins particuliers de chaque enfant, et souhaite intervenir auprès d'eux le plus tôt possible. Ces interventions, essentiellement préventives, ne permettent cependant pas à tous les élèves – surtout ceux présentant des difficultés précoces d'apprentissage ou provenant de milieux défavorisés – d'achever leurs études secondaires.

Plusieurs études ont déjà démontré que la réussite des enfants en début de scolarisation est un très bon prédicteur de leur parcours scolaire futur (Chen, Lee et

Stevenson, 1996; Duncan *et al.*, 2007; Ou et Reynolds, 2008). Il s'avère donc important de bien préparer les enfants, c'est-à-dire de faire en sorte qu'ils aient les habiletés et connaissances nécessaires pour bien commencer leur entrée à l'école, particulièrement ceux issus des milieux défavorisés. Il existe actuellement plusieurs tests, échelles, inventaires et autres mesures qui permettent d'évaluer ce niveau de préparation des jeunes enfants ainsi que leur réussite scolaire. Cependant, la validité de ces mesures est remise en question par certains professionnels et chercheurs, surtout lorsque ces évaluations ont des conséquences importantes sur les élèves et les écoles, comme l'identification d'enfants présentant des risques d'échec scolaire et nécessitant des interventions préventives, ou comme l'évaluation des programmes ou des services éducatifs. Considérant l'importance d'adopter une mesure valide et sensible aux habiletés scolaires des jeunes enfants, la présente thèse a pour but initial d'examiner la validité de deux mesures utilisées dans l'évaluation de la réussite scolaire des élèves au début du primaire. L'analyse des qualités psychométriques de ces mesures pourrait aider les chercheurs et les professionnels à faire un choix plus éclairé à propos des instruments d'évaluation du rendement scolaire des jeunes enfants.

Les élèves issus de milieux pauvres sont généralement plus susceptibles de présenter des retards, à l'entrée du primaire, que leurs pairs issus de familles plus aisées. Ces retards compromettent lourdement leur adaptation scolaire et leur avenir extrascolaire (Brooks-Gunn et Duncan, 1997; Masten et Tellegen, 2012). En effet, il est démontré que les variables liées au statut socio-économique des enfants, telles que le revenu familial et le niveau de scolarité des parents, comptent parmi les prédicteurs les plus robustes de leur rendement scolaire (Burchinal *et al.*, 2002; Malaspina et Rimm-Kaufman, 2008), ainsi que de leur développement cognitif et de leur santé physique (Brooks-Gunn et Duncan, 1997). Néanmoins, malgré l'exposition aux risques inhérents à la pauvreté, certains enfants – dits résilients – arrivent à bien s'adapter et à performer à l'école. Cette thèse cherche à mieux comprendre les raisons d'une bonne

adaptation scolaire chez les élèves pourtant à risque. Elle vise à identifier les caractéristiques personnelles et familiales des enfants qui réussissent à l'école au début du primaire, en dépit des conditions socioéconomiques défavorables auxquelles ils sont exposés. L'identification des ressources impliquées dans le processus spécifique de la résilience constitue une étape fondamentale dans l'investigation des mécanismes par lesquels la protection transcende le risque d'échec scolaire.

Outre les connaissances scolaires et les compétences cognitives (le « savoir-faire ») des enfants, leurs habiletés sur le plan socio-affectif (le « savoir-être » et le « savoir-vivre ensemble ») entrent en ligne de compte dans le processus d'apprentissage et d'adaptation scolaire. En effet, de nombreuses études ont établi des relations significatives entre les résultats scolaires des élèves et leurs comportements et régulation émotionnelle (Dobbs, *et al.*, 2006; Graziano, *et al.*, 2007; Malecki et Elliott, 2002; McClelland *et al.*, 2007). Au début de la scolarisation, les comportements des élèves sont particulièrement influencés par le contexte familial (Burchinal *et al.*, 2006; National Institute of Child Health and Human Development [NICHD], Early Child Care Research Network [ECCRN], 2003, 2004). La famille est effectivement le premier lieu de socialisation des enfants. C'est là qu'ils apprennent à établir des liens émotionnels et qu'ils commencent à développer leur individualité ainsi que des habiletés de communication, d'interaction et d'autorégulation. Bien que le contexte familial semble avoir un rôle fondamental dans le développement des enfants, très peu d'études se sont intéressées à examiner le lien entre le fonctionnement familial et les compétences socio-affectives des élèves à l'école. C'est précisément l'ultime objectif de cette thèse que d'étudier les relations entre les différents aspects du fonctionnement familial et les compétences socio-affectives des enfants en début de scolarisation.

Nous allons à présent effectuer une revue de la littérature au sujet : 1) des méthodes d'évaluation de la réussite scolaire; 2) de la résilience scolaire dans un contexte de

pauvreté; 3) des caractéristiques personnelles et parentales des enfants résilients; 3) des compétences socio-affectives des enfants en début d'école primaire; et 4) du lien entre le contexte familial et les compétences socio-affectives des enfants. Ce premier chapitre d'introduction se terminera par une description des objectifs de la thèse. Les deuxième, troisième et quatrième chapitres sont constitués chacun d'un article. Finalement, le cinquième chapitre présente une synthèse et une discussion des résultats des trois articles. Il s'agit d'un chapitre de conclusion qui évoque également les implications théoriques et cliniques de cette recherche ainsi que les forces, les limites et la portée de la thèse.

1.1. Les méthodes d'évaluation de la réussite scolaire

Le concept de « réussite scolaire » utilisé ici fait référence aux acquis et aux habiletés scolaires – en français (lecture et écriture) et en mathématiques – des enfants en fonction de leur âge et de leur niveau d'études (Laferrière *et al.*, 2011). Ces acquis et habiletés scolaires sont souvent mesurés par les chercheurs, ou dans un contexte clinique afin, entre autres, d'identifier les élèves à risque d'échec scolaire ayant besoin d'interventions préventives. Bien que la réussite scolaire soit un construit largement mesuré, il n'existe pas de consensus sur les instruments les plus appropriés et valides à utiliser pour évaluer les écoliers au début du primaire (Martinez *et al.*, 2009; Stiggins, 2006). Les nombreux tests, inventaires, échelles et autres instruments utilisés actuellement diffèrent sur plusieurs points : les caractéristiques de la population cible, les dimensions mesurées, les conditions d'administration, la nature des données, les répondants et les méthodes d'analyse. Parmi ce vaste répertoire de mesures aux caractéristiques variées, on retrouve principalement deux types de méthodes d'évaluation : les tests de rendement scolaire standardisés (TSS) et les mesures basées sur le jugement de l'enseignant.

Plusieurs études comparatives ont examiné la validité convergente de ces deux méthodes d'évaluation et les résultats révèlent des corrélations modérées à fortes entre le jugement de l'enseignant et les TSS ($r_{\text{moyen}} = 0{,}6$) (Begeny *et al.*, 2008; Gallant, 2009; Hinnant *et al.*, 2009; Hoge et Coladarci, 1989; Martin et Shapiro, 2011; Südkamp *et al.,* 2012). Par contre, à ce jour, peu d'études ont examiné et comparé de manière intégrée les avantages et les biais respectifs de ces méthodes d'évaluation auprès des enfants en début de scolarisation. Bien que les TSS soient plus souvent adoptés dans les recherches en milieu scolaire pour évaluer le niveau des élèves en lecture, écriture et mathématiques (Duncan *et al.*, 2007; La Paro et Pianta, 2000; Sirin, 2005), les chercheurs remettent en question leurs qualités psychométriques et s'inquiètent des conséquences significatives qu'ils ont sur les écoliers (Haladyna, 2006; Rock et Stenner, 2005), comme l'identification de ceux qui devraient recevoir des interventions préventives ou correctives à l'école. Selon Reynolds (2000), la présence d'un biais de test peut conduire à des sous-évaluations ou surévaluations systématiques de certains groupes d'élèves. Les TSS sont souvent critiqués pour la présence des biais culturels et socio-économiques. En effet, on note, par exemple, que les scores présentent systématiquement des écarts sociodémographiques importants en défaveur des élèves de milieux pauvres (Jencks et Phillips, 1998; Kohn, 2000; Miller *et al.*, 2008; Willie, 2001). Quelques chercheurs soutiennent toutefois l'idée que ces écarts proviennent de différences réelles entre les groupes, ces différences étant elles-mêmes dues à l'inégalité des ressources disponibles aux enfants dans leur milieu familial, communautaire et scolaire (Braden, 1999; Rothstein, 2004; Sattler, 2002).

Dans le domaine de l'évaluation des jeunes écoliers, les écrits scientifiques critiquent également souvent le manque de validité écologique des TSS. D'après Pellegrini (2001) et Bagnato (2005), les performances des jeunes élèves peuvent être affectées par le contexte inhabituel du test lui-même, à savoir la présence d'un évaluateur, les tâches demandées, l'utilisation d'un chronomètre, etc. L'augmentation du niveau

d'anxiété au moment de l'évaluation empêcherait certains enfants de bien performer. Dans un contexte plus familier, comme celui de leur classe, avec leur enseignant, etc., ces mêmes enfants pourraient passer leur test en démontrant une meilleure performance (Thurman et McGrath, 2008). Étant donné que les enseignants sont quotidiennement en interaction avec les élèves dans différentes situations d'apprentissage, les mesures de réussite scolaire basées sur le jugement des enseignants pourraient alors offrir une alternative d'évaluation écologiquement valide.

Généralement, le jugement de l'enseignant est recueilli sur de courtes échelles d'appréciation variant de 4 à 6 points (allant, par exemple, de « nettement sous la moyenne » à « nettement au-dessus de la moyenne »). Ces évaluations sont peu coûteuses et faciles à administrer. De plus, des études ont démontré que le jugement de l'enseignant sur la réussite scolaire de ses élèves était aussi valide que celui des TSS, voire plus fiable pour prédire les résultats scolaires futurs des enfants (Forget-Dubois *et al.*, 2007; Hecht et Greenfield, 2001; Meisels *et al.*, 2001). Il n'empêche que certains écrits remettent en question la validité du jugement de l'enseignant, suggérant qu'il puisse être influencé par des facteurs autres que la stricte habileté scolaire des élèves, comme la motivation des enfants (Kaiser *et al.*, 2013), leur comportement en classe (Bennett *et al.*, 1993), leur origine ethnique et leur milieu socio-économique (Glock *et al.*, 2013; Strand, 2012), ainsi que leur sexe (Tiedemann, 2002). Les études de Bennett *et al.* (1993) et Beswick *et al.* (2005) démontrent, par exemple, que l'évaluation d'un enseignant sur les aptitudes scolaires de ses élèves est susceptible d'être biaisée en fonction du comportement des enfants et du statut socio-économique de leur famille. De même, la méta-analyse de Ritts *et al.* (1992), sur l'influence de l'attractivité physique, révèle que les élèves plus attrayants physiquement reçoivent des jugements plus favorables de la part de leurs enseignants, et ce, dans différents domaines comme l'intelligence, le rendement scolaire et les habiletés sociales. En outre, les caractéristiques des enseignants pourraient elles aussi

avoir une incidence sur l'évaluation du rendement scolaire des élèves. Les études portant sur ce sujet sont rares mais celle de Mashburn et Henry (2004) rapporte que les évaluations réalisées par des enseignants ayant un niveau de scolarité élevé étaient plus conformes aux scores des TSS que celles réalisées par des enseignants moins scolarisés.

Dans leur méta-analyse, Südkamp *et al.* (2012) ont proposé un modèle heuristique qui prend en compte les facteurs liés à la fiabilité du jugement de l'enseignant sur le rendement scolaire des élèves. Ce modèle établit une correspondance entre le jugement de l'enseignant et les scores des TSS, ces derniers étant considérés comme des critères externes, c'est-à-dire des mesures indépendantes et directes du rendement scolaire des élèves. Les possibles facteurs modérateurs du lien entre le jugement de l'enseignant et le critère externe proviendraient des caractéristiques de ces deux mesures (le type d'instruments utilisés, les domaines mesurés, les conditions de passation des tests, etc.), et des caractéristiques des élèves et des enseignants (par exemple, dans le cas des élèves, leur âge, leur origine ethnique et leur motivation, et pour ce qui est des enseignants, leur expérience et leur formation). Parmi les 75 études incluses dans cette méta-analyse, très peu, néanmoins, nous indiquent quelles sont les caractéristiques des enseignants pouvant altérer la fiabilité de leur jugement.

Dans l'ensemble, les études suggèrent que la validité des méthodes d'évaluation de la réussite scolaire est liée à différentes caractéristiques relatives aux tests, aux élèves et aux enseignants. D'une part, les TSS sont critiqués pour leur manque de validité écologique et les possibles biais culturels et socio-économiques, d'autre part, les mesures basées sur le jugement des enseignants sont également remises en question à cause des possibles biais liés à certaines caractéristiques des élèves et des enseignants eux-mêmes. Ainsi, l'étude des qualités psychométriques de différentes méthodes d'évaluation du rendement scolaire des jeunes enfants pourrait aider les chercheurs et

les professionnels à faire un choix plus éclairé parmi ces méthodes, choix qu'ils opéreraient en considérant les forces et les faiblesses de chacune.

1.2. La résilience scolaire dans le contexte de la pauvreté

L'effet négatif de la pauvreté sur le rendement scolaire des enfants est bien démontré dans les écrits scientifiques (Duncan et Brooks-Gunn, 2000; NICHD ECCRN, 2005; Pagani *et al.*, 1999; Sirin, 2005). Les enfants défavorisés sont exposés à des problèmes tels que le chômage et le faible niveau de scolarité des parents, le manque de soutien social, la monoparentalité, les maladies physiques et mentales dans la famille, les pratiques parentales incohérentes et les conflits familiaux (pour une revue complète, voir Evans, 2004; Felner et DeVries, 2013), autant de facteurs qui, liés les uns aux autres, influencent leurs performances scolaires. D'après certaines études longitudinales révisées (Brooks-Gunn et Duncan, 1997), le risque, pour un enfant, d'avoir des problèmes d'apprentissage et des retards importants de développement est 1,3 fois plus élevé lorsqu'il provient d'une famille à faible revenu.

Cette influence du niveau socio-économique défavorable sur le rendement scolaire des enfants diffère selon le stade de leur développement. Selon l'étude de Duncan *et al.* (1998), la pauvreté vécue de la naissance à l'âge de 5 ans a un effet plus fort sur les performances scolaires futures des enfants que celle vécue entre 5 et 10 ans, ou entre 11 et 15 ans. En effet, la précarité financière pendant la petite enfance et l'âge préscolaire semble avoir un effet plus déterminant sur la capacité d'atteindre un niveau scolaire plus élevé que l'exposition à la pauvreté dans les stades ultérieurs du développement, comme à l'adolescence. Il s'avère que le statut socio-économique des premières années de la vie d'un enfant est un bon prédicteur de son rendement scolaire à l'école maternelle et primaire (Burchinal *et al.*, 2002; Malaspina et Rimm-

Kaufman, 2008), à l'adolescence (Jimerson *et al.*, 1999), ainsi qu'à l'âge adulte (Fergusson *et al.*, 2008).

Assurément, les écrits scientifiques établissent un lien important entre le statut socio-économique et le rendement scolaire des enfants. Cependant, la nature exacte de ce lien et les mécanismes sous-jacents à ce phénomène font encore l'objet de nombreuses enquêtes et controverses. Au cours des dernières décennies, les chercheurs se sont intéressés aux enfants « résilients », c'est-à-dire aux enfants qui se développent bien en dépit des situations difficiles auxquelles ils sont exposés. La résilience est la capacité de surmonter l'adversité, ou des situations risquées, au moyen d'un processus complexe impliquant des facteurs internes (biologiques et psychologiques) et externes (environnementaux); elle résulte de l'interaction dynamique et bidirectionnelle entre l'enfant, sa famille, ses pairs, son école, son voisinage et sa communauté (Kaplan, 2013; Rutter, 2012; Ungar *et al.*, 2013). Selon les études dans ce domaine, la résilience serait de nature dynamique et multidimensionnelle, puisque le niveau d'adaptation de la personne varie selon son contexte de vie et les différents stades de son développement (Luthar *et al.*, 2000). Par exemple, dans le contexte scolaire, il se peut qu'un enfant ait un bon rendement scolaire mais soit moins compétent dans le domaine social, ou qu'il ait de la facilité à l'école primaire et des difficultés importantes au secondaire.

Les recherches en résilience sont fréquemment basées sur deux stratégies d'analyse complémentaires : l'une basée sur les variables et l'autre basée sur les personnes (voir Luthar et Cushing, 1999, pour une révision détaillée de chaque stratégie d'analyse). L'approche basée sur les variables vise à saisir le processus sous-jacent à la résilience en identifiant des possibles effets principaux et d'interaction entre l'adversité, la compétence et les facteurs de protection. La deuxième approche, basée sur les personnes, s'intéresse à l'hétérogénéité des réponses observées parmi les individus exposés à des risques, et à l'identification de leur profil. Plus précisément, cette

stratégie d'analyse vise à identifier un groupe d'individus résilients en se basant sur des indices de risque et de compétence élevés. Une fois identifié, le groupe de résilients est comparé à un groupe d'individus non résilients, c'est-à-dire ayant été exposés aux mêmes niveaux d'adversité sans parvenir à bien s'adapter. Le groupe de résilients peut également être comparé à un groupe d'individus aux compétences élevées et possédant une bonne capacité d'adaptation mais n'ayant pas été exposés à des situations de risque. Ces analyses aident à identifier les ressources impliquées dans le processus d'adaptation positive chez individus résilients. De plus, elles permettent de vérifier si ces ressources sont comparables à celles présentes chez les individus qui ne sont pas à risque.

L'étude des ressources susceptibles d'aider les enfants à risque dans leur cheminement scolaire constitue une étape essentielle de l'enquête générale sur les processus par lesquels la protection transcende le risque. La recherche sur la résilience met en lumière certaines caractéristiques des enfants et des parents qui, en lien avec leur environnement, favorisent ou compromettent l'adaptation des enfants (Werner, 2013). Mais à ce jour, peu d'études ont examiné les caractéristiques des enfants résilients sur le plan scolaire et dans un contexte de pauvreté. Cela est surprenant étant donné que l'un des principaux objectifs en éducation et en santé publique, dans bien des pays développés, consiste à réduire l'impact des inégalités socio-économiques sur la réussite scolaire des enfants. La quasi méconnaissance des mécanismes conduisant à la résilience scolaire pourrait expliquer en partie pourquoi plusieurs programmes de prévention de l'échec scolaire dans les milieux pauvres ont des résultats limités (Ceci et Papierno, 2005; Reardon, 2011). Dans la prochaine section, nous passerons en revue les écrits sur les caractéristiques personnelles des enfants et de leurs parents susceptibles d'être impliquées dans le processus de résilience scolaire dans un contexte de pauvreté.

1.2.1. Les caractéristiques personnelles et parentales des enfants résilients

Les caractéristiques personnelles des enfants résilients les plus souvent mentionnées dans les écrits scientifiques sont : de bonnes habiletés cognitives, un tempérament facile et des compétences sociales (Condly, 2006; Masten et Coatsworth, 1998; Werner, 2013). En effet, il semble que les enfants résilients possèdent de meilleures habiletés cognitives que d'autres enfants exposés à la même adversité. Ces habiletés sont souvent mesurées par des tests de quotient intellectuel (QI) (Kumpfer, 1999; Masten et Powell, 2003; Werner, 1995, 2004; Wright et Masten, 2004). Dans l'étude longitudinale de Masten *et al.* (1999), les adolescents résilients sur le plan du rendement scolaire et du comportement ont obtenu des scores de QI plus élevés à la fin de l'école primaire que leurs pairs, inadaptés et exposés aux mêmes situations à risque. L'explication de ce lien entre les habiletés intellectuelles et la résilience scolaire n'est pourtant pas claire. Les scores de QI reflètent une multitude de processus cognitifs, tels que l'attention, la mémoire, l'inhibition, le raisonnement, et même la motivation (Curtis et Cicchetti, 2003). Les enfants plus intelligents possèdent généralement une meilleure capacité de concentration, de mémorisation, de résolution de problèmes et de régulation des émotions (Masten et Coatsworth, 1998). Les enfants à risque possédant de bonnes habiletés intellectuelles pourraient alors avoir plus de facilité à se concentrer en classe et à gérer leurs comportements, malgré les stresseurs et les difficultés auxquelles ils sont confrontés dans leur communauté et/ou milieu familial. Ces enfants seraient donc plus en mesure de bénéficier de situations d'apprentissage, d'avoir de bons résultats scolaires et de recevoir des renforçateurs sociaux tels que les félicitations des enseignants. Par un effet « boule de neige », ces renforçateurs et le bon rendement scolaire pourraient à leur tour accroître l'engagement de l'élève envers l'école, et favoriser ses relations avec ses pairs et ses enseignants. De même, les enfants à risque mais possédant de bonnes habiletés cognitives seraient plus aptes à comprendre les situations favorables et défavorables

autour d'eux, et ils seraient mieux outillés pour chercher de l'aide en cas de besoin (Condly, 2006).

Un tempérament facile et un bon ensemble de compétences sociales pourraient également contribuer à une adaptation résiliente (Werner, 2013). Ces compétences consisteraient à pouvoir gérer des situations sociales, se mettre à la place de l'autre, apprendre des expériences sociales passées, et appliquer ces apprentissages aux nouvelles situations sociales (Semrud-Clikeman, 2007). Les recherches démontrent que les compétences sociales s'associent positivement à la régulation émotionnelle (Denham *et al.*, 2003) et au rendement scolaire (Caprara *et al.*, 2000; Malecki et Elliot, 2002; Welsh *et al.*, 2001), et qu'elles s'associent négativement aux problèmes de comportement (Burt *et al.*, 2008; Henricsson et Rydell, 2006; Lansford *et al.*, 2006). Par exemple, l'étude longitudinale réalisée par Obradović *et al.* (2010) indique que la compétence sociale, mesurée à la fin de l'école primaire, est corrélée positivement avec le rendement scolaire et qu'elle peut prédire les problèmes de comportement intériorisés à l'adolescence (comme l'anxiété), quel que soit le statut socio-économique de l'enfant.

Pour ce qui est des caractéristiques parentales, la bonne gestion, par les parents, du stress lié aux enjeux quotidiens de la parentalité semble favoriser le développement des enfants (Crnic et Low, 2002). En plus de répondre aux exigences typiques du rôle parental, les parents à faibles revenus sont exposés à davantage de stress au sein de la famille, au travail et dans la communauté, stress qui rend les tâches quotidiennes plus difficiles à accomplir. On peut ainsi supposer que les parents défavorisés qui ont de la difficulté à gérer leur stress sont moins en mesure de prendre soin de leurs enfants de façon cohérente et continue, ainsi que de développer avec eux une relation chaleureuse et aidante. Une étude réalisée auprès d'enfants en maternelle (Anthony *et al.*, 2005) démontre qu'un niveau élevé de stress parental – provenant de difficultés liées au rôle de parent, aux comportements de l'enfant et à l'interaction parent-enfant

– diminue les habiletés sociales de ces enfants et accroît leurs problèmes de comportement, extériorisés et intériorisés; ceci, aussi bien dans les maternelles privées que publiques. Bien que plusieurs études soulignent l'effet négatif du stress parental sur le comportement de l'enfant (Anthony *et al.*, 2005; Bagner *et al.*, 2009; Crnic et Low, 2002; Whittaker *et al.*, 2011), le lien entre le stress parental et la réussite scolaire des enfants exposés à la pauvreté demeure à ce jour très peu documenté.

Finalement, les études sur la résilience suggèrent que les enfants à risque peuvent surmonter les épreuves liées à la pauvreté et mieux s'adapter s'ils possèdent des caractéristiques particulières (Werner, 2013). Parmi ces caractéristiques, on retient les habiletés cognitives et sociales de l'enfant (Condly, 2006; Masten *et al.*, 1999) et le faible niveau de stress parental (Crnic & Low, 2002). Bien que plusieurs études longitudinales aient démontré l'importance de certaines de ces caractéristiques sur l'adaptation des enfants (Werner, 2013), la plupart ont été menées auprès d'élèves en fin de primaire ou au secondaire. On trouve encore peu d'informations sur le processus de résilience chez les enfants d'âge préscolaire exposés à la pauvreté. Ce manque de données sur la résilience scolaire pourrait expliquer en partie pourquoi de nombreuses interventions auprès de jeunes enfants, visant à prévenir l'échec scolaire dans les milieux défavorisés, ne rencontrent qu'un succès limité (Ceci et Papierno, 2005; Reardon, 2011).

1.3. Les compétences socio-affectives des enfants au début de l'école primaire

L'adaptation et la réussite des jeunes écoliers au début du primaire semblent découler principalement de leurs compétences socio-affectives. En effet, les écrits scientifiques démontrent que ces compétences sont associées au rendement scolaire des élèves

(Dobbs *et al.*, 2006; Graziano *et al.*, 2007; Miles et Stipek, 2006) et à la qualité de leurs relations interpersonnelles à l'école (Baker, 2006; Ladd et Burgess, 1999; Pianta et Stuhlman, 2004). D'ailleurs, le niveau de compétence sociale s'avère être un bon prédicteur de la réussite scolaire future des jeunes enfants (Agostin et Bain, 1997; Burchinal *et al.*, 2006; Chen *et al.*, 1996; Duncan *et al.*, 2007; Malecki et Elliott, 2002; Ou et Reynolds, 2008). Les enfants qui possèdent une meilleure capacité d'empathie, de communication, de gestion des émotions négatives et d'inhibition des comportements agressifs, sont probablement plus susceptibles d'être attentifs en classe et d'utiliser leurs habiletés cognitives supérieures (ou « fonctions exécutives », comme la mémoire de travail et la planification). Ces habiletés peuvent à leur tour favoriser un apprentissage optimal et l'obtention de bons résultats scolaires (Graziano *et al.*, 2007; Malecki et Elliott, 2002; Monette *et al.*, 2011). De plus, les élèves compétents sur le plan socio-affectif semblent plus aptes à établir et maintenir des relations positives et étroites avec leurs enseignants, ce qui conforte aussi leur adaptation, leur engagement et leur motivation à l'école (Graziano *et al.*, 2007; Roorda *et al.*, 2011).

Même si la recherche souligne avec évidence l'importance des compétences socio-affectives dans l'adaptation et la réussite scolaire des enfants, il reste encore à analyser les facteurs impliqués dans le développement de ces compétences. Dans la prochaine section, nous survolerons la question du contexte familial et de ses liens potentiels avec le profil socio-affectif des enfants.

1.3.1. Le contexte familial et les compétences socio-affectives des enfants

Le profil socio-affectif des enfants est susceptible d'être influencé par différents contextes, comme le contexte familial ou scolaire, et ce, surtout en début de

scolarisation (Burchinal *et al.*, 2006; Hoglund et Leadbeater, 2004; NICHD ECCRN, 2003, 2004). La famille joue un rôle important dans le développement de l'enfant. En plus de lui apporter un bagage génétique et un environnement qui influenceront certainement son développement, elle constitue son premier milieu de socialisation (Collins *et al.*, 2000). C'est au sein de la famille que les enfants commencent à développer leur identité et leur estime de soi, en plus d'apprendre à communiquer, à entrer en relation avec les autres et à identifier et gérer leurs émotions.

Le statut socio-économique familial de l'enfant est reconnu pour avoir une importante influence sur son développement (Bradley et Corwyn, 2002; McLoyd, 1998). Outre ce facteur, différentes caractéristiques relatives aux premières expériences de l'enfant au sein de sa famille ont été rapportées comme étant également des prédicteurs de compétences sociales et de problèmes comportementaux à l'école. Ces caractéristiques comprennent les pratiques parentales (Burchinal *et al.*, 2006; Gadeyne *et al.*, 2004), la qualité des expériences d'apprentissage à la maison (Foster *et al.*, 2005), le fonctionnement familial (King *et al.*, 2005), la santé mentale de la mère ainsi que la sensibilité maternelle (NICHD ECCRN, 2003, 2004). Les pratiques parentales intrusives et contrôlantes, par exemple, ont été rapportées comme étant associées positivement aux problèmes d'attention et de comportement extériorisés chez les enfants à l'école (Gadeyne *et al.*, 2004). Une étude auprès d'enfants au début du primaire (NICHD ECCRN, 2004) révèle que les élèves considérés par l'enseignant comme étant plus compétents socialement et présentant moins de problèmes de comportement en classe étaient issus de familles aux caractéristiques suivantes : les parents étaient proches l'un de l'autre et soutenaient affectivement leur conjoint; les pères étaient plus sensibles aux besoins et intérêts de leurs enfants; les mères avaient des croyances éducatives centrées sur l'enfant et qui visent le développement de son autonomie. D'autres écrits suggèrent également que la sensibilité maternelle et les interactions positives mère-enfant sont liées positivement aux compétences socio-

affectives de l'enfant à l'école, et négativement aux problèmes de comportement (Clark et Ladd, 2000; Morrison *et al.*, 2003).

Ainsi, diverses études ont observé l'influence des caractéristiques parentales sur le comportement des enfants à l'école. Cependant, très peu ont examiné la famille et ses divers aspects en tant que système (King *et al.*, 2005). Selon l'approche systémique, la famille est un ensemble où le tout vaut plus que la somme de ses parties; elle est un système en constante transformation dans lequel les membres exercent une influence continue et réciproque les uns sur les autres. Ce système doit s'adapter aux différentes étapes de son développement en ayant pour objectif de maintenir son unité tout en promouvant la distinction de chacun de ses membres (Andolfi *et al.*, 1985; Minuchin, 1998). La notion de cohésion familiale, dans ce sens, renvoie à l'équilibre entre la proximité émotionnelle des membres d'une famille et leur différentiation. Dans l'étude de Smith *et al.* (2001), qui porte sur le lien entre le fonctionnement familial et les comportements des enfants des familles afro-américaines, trois aspects du fonctionnement familial ont été étudiés : la structure familiale – définie par les auteurs comme la qualité du soutien émotionnel et de l'organisation des rôles et des règles dans la famille –, la cohésion et la communication. Il ressort de cette étude que ces trois aspects sont positivement liés à la compétence sociale de l'enfant, tandis que seul l'aspect de la structure familiale est lié – négativement, quant à lui – aux problèmes de comportement chez l'enfant. Par ailleurs, l'étude de King *et al.* (2005) examine, à l'aide de modèles à équations structurelles, les relations entre différents aspects du contexte familial, les comportements des enfants, et leur rendement scolaire. Il ressort de cette étude qu'un bon fonctionnement familial (en termes de la résolution de problèmes, la communication, la sensibilité et l'engagement affectif) favorise un meilleur rendement scolaire par l'intermédiaire du fonctionnement émotionnel et comportemental de l'enfant. Ainsi, le fonctionnement familial semble avoir un effet sur le comportement de l'enfant et, par conséquent, sur ses performances à l'école. Par contre, on ne connaît pas encore la contribution

spécifique de chaque aspect du fonctionnement familial – comme la cohésion, le soutien affectif, la communication et la capacité à résoudre les problèmes – sur les différents comportements et compétences sociales manifestés par l'enfant à l'école.

1.4. Les objectifs de la thèse

La présente thèse vise à approfondir les connaissances sur la réussite scolaire et les compétences socio-affectives des enfants au début de leur scolarisation. Trois objectifs spécifiques sont poursuivis :

Le premier consiste à examiner les qualités psychométriques de deux mesures du rendement scolaire provenant de deux méthodes d'évaluation largement utilisées dans le domaine de la recherche en éducation, soit : l'échelle d'appréciation remplie par l'enseignant (EE), et les tests de rendement scolaire standardisés en français et en mathématiques (TFM), administrés aux enfants. L'idée est de vérifier la validité de ces deux mesures en utilisant des critères externes recueillis à la maternelle, ainsi que d'évaluer la présence de possibles biais liés aux caractéristiques de la famille, de l'enfant et de l'enseignant. Le deuxième chapitre de cette thèse tente de répondre à cet objectif au moyen d'un article accepté par à la revue *International Journal of Research & Method in Education* et intitulé : « Validity and bias of academic achievement measures in the first year of elementary school » (Hammes, Bigras et Crepaldi, accepté).

À l'aide d'une mesure valide et sensible aux habiletés scolaires des jeunes enfants (article 1), le deuxième objectif de cette thèse consiste à identifier des attributs personnels et parentaux, à la maternelle, pouvant caractériser les enfants résilients sur le plan scolaire, c'est-à-dire qui réussissent à la fin de la première année du primaire en dépit du faible statut socio-économique de leur famille. Les caractéristiques

considérées dans notre étude sont les habiletés cognitives et le profil socio-affectif des enfants, ainsi que le niveau de stress parental. Ces caractéristiques sont toutes mesurées à la maternelle. Nous examinerons les caractéristiques spécifiques aux enfants résilients, en les comparant avec des enfants provenant de familles plus aisées. Le troisième chapitre de notre thèse tâche de répondre à cet objectif au moyen d'un deuxième article intitulé : « Personal and family characteristics of academically resilient young children » (Hammes, Capuano, Crepaldi et Bigras).

Finalement, considérant l'importance des compétences socio-affectives dans la réussite des écoliers, le troisième objectif de notre thèse consiste à examiner, selon une approche systémique, les liens entre les différents aspects du fonctionnement familial des enfants à l'âge préscolaire et leurs compétences socio-affectives à la fin de la première année du primaire. Les aspects du fonctionnement familial considérés dans cette étude sont : la cohésion, l'harmonie, le soutien affectif et la capacité à résoudre des problèmes. Le quatrième chapitre de notre travail couvre cet objectif au moyen d'un article publié dans la revue *The Spanish Journal of Psychology* et qui s'intitule : « Family functioning and socioaffective competencies of children in the beginning of schooling » (Hammes, Bigras et Crepaldi, 2012).

En résumé, cette thèse vise en premier lieu à examiner la validité de deux mesures de réussite scolaire, appliquées sur un même échantillon, au début du primaire. À l'aide d'une mesure valide de rendement scolaire, notre but est ensuite d'identifier les élèves à faibles revenus ayant réussi leur première année du primaire. Ceci, dans le but de vérifier si leurs compétences cognitives et socio-affectives et le niveau de stress parental pourraient être impliqués dans leur processus de résilience scolaire. Étant donné le rôle fondamental des compétences socio-affectives dans l'adaptation des jeunes enfants à l'école, le troisième objectif de notre thèse consiste à examiner les caractéristiques du contexte familial possiblement associées à ces compétences. Plus qu'une étude centrée sur les caractéristiques spécifiques de la mère et/ou du

père, notre dernier article vise à approfondir les connaissances sur les différents aspects du fonctionnement familial liés aux compétences socio-affectives des enfants au début du primaire.

CHAPITRE II

VALIDITY AND BIAS OF ACADEMIC ACHIEVEMENT MEASURES IN THE FIRST YEAR OF ELEMENTARY SCHOOL

(ARTICLE 1)

Validity and bias of academic achievement measures in the first year of elementary school

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Abstract

We tested the criterion-related validity and potential bias of two measures of pupils' academic achievement: the Teacher Rating Scale (TRS) and the Mathematics and Literacy Achievement Tests (MLTs). These measures are representative of assessment methods largely used in the elementary school. The aims were: 1) to verify the extent to which TRS and MLTs can be predicted by external criterions collected at kindergarten, and 2) to estimate the degree to which each measure might be biased by family, teacher and children's characteristics. A total of 239 children were assessed during kindergarten. At the end of the first grade, they were tested for social-emotional adjustment, and academic achievement (TRS and MLTs). Results suggest that family socioeconomic status and children's school readiness at kindergarten were associated with both measures; however, the predictors accounted for significantly more variance in TRS than in MLTs. Regarding the presence of bias, results indicate that TRS seems more sensitive to children's social competence, whereas the MLTs appears to be more sensitive to pupils' anxiety.

Keywords: academic achievement, teacher judgment, standardized achievement test, elementary school students

Validity and bias of academic achievement measures in the first year of elementary school

Currently, many inventories, scales, and other measuring instruments are available to assess academic achievement in the early school years. These instruments differ with respect to the characteristics of the targeted population, the dimension measured, the conditions of administration, the nature of the data, the methods of analysis, and so on. In this article, we aim to contribute to helping researchers and education professionals make a more informed choice of the measuring instrument by examining two measures based on assessment methods largely used in elementary school, that is, standardized achievement tests (SATs) and teachers' judgments of students' academic achievement.

The concept of academic achievement used here refers to children's academic knowledge and skills, based on their age and prior learning (Laferrière et al. 2011). Although academic achievement is a widely measured construct, there is no consensus with respect to the most valid methods to test children beginning elementary school either in research or in clinical contexts (Martínez, Stecher, and Borko 2009; Stiggins 2006). Südkamp, Kaiser, and Möller's (2012) meta-analysis and Hoge and Coladarci's (1989) review of comparative studies on teachers' judgments of academic achievement and SATs, involving students of all ages, revealed a moderate to strong correlation between these two types of measures (median $r = .6$). Other recent studies have found similar results, confirming a comparable level of convergent validity between teachers' judgments and SATs

(Begeny et al. 2008; Gallant 2009; Hinnant, O'Brien, and Ghazarian 2009; Martin and Shapiro 2011).

Despite the fact that the majority of studies on academic achievement employs SATs to assess students' performance in reading, writing and mathematics – as listed by different educational meta-analyses (Duncan et al. 2007; La Paro and Pianta 2000; Sirin 2005) –, the validity of standardized test scores are brought into question when they lead to significant consequences for students (Haladyna 2006; Rock and Stenner 2005), such as screening to determine who may need preventive or corrective educational programs. The presence of test bias, for example, may lead to an under- or over-identification of students from a specific group. As defined by Reynolds (2000), the test bias refers to a systematic error in the meaning of test scores that are associated with the individual's group membership (e.g., ethnicity, gender, and socioeconomic status). A widespread criticism is the presence of an ethnic and socio-economical bias in SATs as they present consistent and substantial score differences between minority and nonminority students (Jencks and Phillips 1998; Kohn 2000; Miller, Kerr, and Ritter 2008; Willie 2001). However, many researchers argue though that the SATs' ethnic gap likely reflects real differences between the groups, related to differences in educational opportunities, family income, level of parents' education, teaching quality and support systems (Braden 1999; Rothstein 2004; Sattler 2002).

With respect to the assessment of young children at the beginning of school, the lack of ecological validity of SATs is an additional common critique, meaning

that the conditions of the test administration may fail to correspond to children's natural environment. Indeed, stress factors occurring in the context of the administration of standardized test might influence young students' performance such as unfamiliar inquirer, the use of timer, and the nature of the tasks (Bagnato 2005; Pellegrini 2001). In order to have a more valid measure in this context, Thurman and McGrath (2008) suggest, for example, the use of evaluation methods that allow for the assessment of young children in their own environment (e.g., day-care/school and home) and while they are doing their daily activities in the presence of familiar people.

One possible valid alternative to SATs is teacher-judgment measures such as rating scales. Typically, brief rating scales require teachers to rate students' academic achievement on a 4 to 6-points scale (e.g. from low to high achievement). These scales have the benefit of being easy to use and fairly cheap to administer. Moreover, studies have shown that teachers' ratings of academic achievement can predict future academic performance as accurately as or even more accurately than SATs (Forget-Dubois et al. 2007; Hecht and Greenfield 2001; Meisels et al. 2001). Given the daily interactions between teachers and pupils in a variety of learning contexts, teachers' ratings appear to be carried out in an ecologically valid manner as they take into account children's potential in their natural environment.

Although some research shows evidence of teacher-based testing validity (Martínez et al. 2009; Südkamp, Kaiser, and Möller 2012; Triga 2004), other studies raise concerns about teachers' ability to judge, suggesting that they could be

influenced by other factors than children's academic skills. Indeed, empirical research has documented that the accuracy of teachers' judgments in assessing students' academic achievement may vary according to children's traits, such as motivation (Kaiser et al. 2013), classroom behaviours (Bennett et al. 1993;), ethnic and socio-economic background (Glock et al. 2013; Strand 2012), disability status (Hurwitz, Elliott, and Braden 2007), gender (Tiedemann, 2002), and physical attractiveness (Ritts, Patterson, and Tubbs 1992). The study of Beswick, Willms, and Sloat (2005), for example, showed that teachers' ratings were closely associated with pupils' behavioural difficulties in classroom, as well as children's gender and mother's education level. Besides children's characteristics, a small number of studies have also investigated teachers' characteristics that may influence judgment accuracy, as is the case of Mashburn and Henry's (2004) study, indicating that teachers with higher education levels rated students more consistently with SAT scores.

In their recent review, Südkamp, Kaiser, and Möller (2012) proposed a heuristic model that brings together factors related to teacher judgment accuracy of students' academic achievement. The authors suggest that possible moderators of teacher judgment accuracy are the singularities of the teacher-based measure and the test used as a criterion (e.g., subject matter, the specific task set, type of the test – curriculum-based measures or SATs), as well as students' and teachers' characteristics (e.g., motivation, prior knowledge, ethnicity, teachers' experience and professional expertise). However, among the 75 studies included in their meta-

analysis, very few reported information on teachers' and students' characteristics that may be related to teacher judgment accuracy of students' academic achievement.

On the whole, studies suggest that different characteristics of the tests, the students and the teachers may be related to the validity of academic achievement assessment methods. On one hand, SATs are criticized for their lack of ecological validity and possible ethnic and socio-economical bias; and on the other hand, teacher-judgment measures appear to be affected by other forms of bias such as characteristics of students or teachers themselves. Considering that these assumptions derive from different samples and contexts, the main goal of this study was to test the criterion-related validity and potential bias of two measures of academic achievement (i.e., the Teacher Rating Scale – TRS, and the Mathematics and Literacy Achievement Tests – MLTs) within the same sample in order to exam their relative validity in the process of assessing pupils' performance in the first year of elementary school. More specifically, our aims were to verify the extent to which these measures can be predicted by measures collected at kindergarten in order to test their respective criterion-related validity; as well as to estimate the degree to which each measure might be biased by characteristics of the family, the teacher and the child, such as social abilities, socioeconomic status and teacher's years of experience. Our study will also help to address the lack of knowledge on students' and teachers' characteristics related to pupils' academic achievement, as stated by Südkamp et al. (2012) in their meta-analysis.

Method

Participants

The participants for this study included 239 francophone children (120 boys, 119 girls, M_{age} = 5.5 years old) and their mothers, located in the Estrie region of Quebec, Canada. They were assessed at the end of the first semester of kindergarten, as well as at the end of the first year of elementary school. At kindergarten, the time frame before the data collection allowed teachers enough time to get to know their students before being asked to assess them. Children were distributed among 42 public preschools at kindergarten, and to 52 elementary schools at first grade. The participants' socio-demographic characteristics presented in this section were collected through questionnaires completed by parents and teachers (more information about the data collection in the *Procedure* section). At kindergarten, 70 teachers participated in the study (all women), with experience ranging from 1 to 35 years ($M_{experience}$ = 14 years). At first grade, 90 certified elementary school teachers participated (6 men, 84 women), with experience ranging from 1 to 38 years ($M_{experience}$ = 16 years). Around 90% of children were living with both parents. Parents' average age was 32 years old for the mothers and 35 years old for the fathers. Approximately 40% of the families had low annual income (less than CAD $30,000), 35% had middle income (between CAD $30,000 and $50,000), and 25% had high income (more than CAD $50,000). The majority of the parents (65%) had education levels equal or inferior to high school degree, 20% of them had a college degree, and 15% had an Undergraduate Diploma or higher.

Measures at kindergarten

Social-emotional adjustment. Kindergarten teachers completed the Social Competence and Behavior Evaluation Scale – Short form (SCBE-30; LaFreniere and Dumas 1996). This standardized questionnaire allows the teacher to evaluate children's social competencies and behaviour problems. It is composed of 30 items that describe child's behavior in three broad categories: emotional adjustment, social interactions with peers, and social interactions with adults. Each item is rated on a 6-point scale (from 1 = *never observed* to 6 = *always observed*). The instrument provides three summary scales: 1) Social Competence: measures the extent to which child is confident, joyful, tolerant, socially integrated, calm, pro-social, cooperative, and autonomous; 2) Anxiety-withdrawal: measures anxious, depressed, isolated, and dependent behaviours; and 3) Anger-aggression: measures angry, aggressive, egotistical, and oppositional behaviours; for more details see LaFreniere and Dumas (1996). The psychometric properties of the short form are similar to the complete form of the SCBE (with 80 items), presenting very high correlations between the scales (.92 – .97) (LaFreniere and Dumas 1996). Validation studies with the French version of the test conducted with Quebec children showed that the SCBE-30 scales have excellent internal consistency ($\alpha \geq .85$), good inter-rater reliability (above .83), and satisfactory test-retest reliability over a two-week interval (above .78) (Venet, Bigras, and Normandeau 2002).

Children's school readiness. School readiness of kindergarten children was assessed with the Lollipop Test: A Diagnostic Screening Test of School Readiness

(Chew 1989). This test was administered by six trained students from a master's degree program in psychoeducation and scored by a psychologist registered with the Ordre des psychologues du Québec (OPQ). It comprises four subtests: 1) Identification of colours and shapes, and copying shapes (14 items); 2) Picture description, position and spatial recognition (10 items); 3) Identification of numbers and counting (14 items); and 4) Identification of letters and writing (14 items). This test is administered orally and individually, and requires approximately 15 minutes. Most of the items are scored either correct or incorrect, with a possible total range of 0 to 69 points. This test has good convergent validity with other school readiness tests and cognitive measures (e.g., the Metropolitan Readiness Test – MRT; Chew and Morris 1984). The French version of this test was found to have high degree of internal consistency ($\alpha = .89$) and test-retest reliability (above .80) (Venet et al. 2003). Regarding the predictive validity, studies with the English version showed that this test could predict academic achievement up to fourth grade (Chew and Morris 1989). The results obtained with French speaking pupils in Quebec indicated that the test was able to predict academic achievement measured three years later (Venet et al. 2003).

Measures at elementary school

Academic achievement. A Teacher Rating Scale (TRS) was used to assess children's academic achievement at the end of first grade. Teachers were asked to rate each pupil's performance in reading, writing, and mathematics on a 5-point rating scale (1 = well below average, 3 = average, and 5 = well above average).

Teachers are familiar with this type of measure in Quebec, as it is frequently used to assess students' academic skills in elementary school, and their judgments are based on evaluation criteria specified in guidelines of the Ministry of Education, Recreation and Sports (Quebec). The TRS was devised by our research team based on the scale of the Academic Performance section from the Teacher's Report Form (TRF) of the Achenbach System of Empirically Based Assessment (ASEBA; Achenbach and Rescorla 2001). The scores of the scales (reading, writing and mathematics) were found to have high degree of internal consistency reliability (average inter-item correlation of .82). Since the three scales were highly correlated, a total TRS score was calculated for subsequent analyses by taking the mean of the scales' z-scores.

Students' academic achievement at the end of the first grade was also assessed by Mathematics and Literacy (French) Achievement Tests (MLTs). The MLTs were administered at school by students from a master's degree program in psychoeducation. These tests were chosen because of their content validity and socio-cultural adequacy to the francophone participants of our study. They were extracted from a measures database approved by the Ministry of Education, Recreation and Sports (Quebec). The Mathematics test consists of 10 items scoring from 0 to 5, for a maximum total of 50 points. The Literacy test in reading and writing (*Mémo 1. Guide pédagogique*; Guillemette, Létourneau, and Raymond, 1990) consists of 13 items with varied scores, for a maximum total of 50 points. The Literacy and the Mathematics tests were also found to be highly correlated (r = .97), and a total score for the MLTs was calculated by taking the mean z-score of both tests.

Social-emotional adjustment. Elementary school teachers evaluated children's social competencies and behaviour problems by filling out the complete form of the Social Competence and Behavior Evaluation Scale – SCBE (LaFreniere et al. 1992). This version of the SCBE includes 80 items rated on a 6-point scale (from 1 = *never observed* to 6 = *always observed*), and also provides 3 summary scales: 1) Social Competence: measures the extent to which child is confident, joyful, tolerant, socially integrated, calm, pro-social, cooperative, and autonomous; 2) Anxiety-withdrawal: measures anxious, depressed, isolated, and dependent behaviours; and 3) Anger-aggression: measures angry, aggressive, egotistical, and oppositional behaviours; for more details see LaFreniere et al. (1992). Previous studies indicate a good internal consistency (.79 – .91) and inter-rater reliability (.72 – .89) for all SCBE scales (LaFreniere et al. 1992).

Procedure

Our data collection was done at the end of the first kindergarten semester, and 18 months later at the end of the first year of elementary school. After the approval of our research project by the Institutional Ethics Committee of Research Involving Humans (CÉR – Université de Sherbrooke), the parents of every pupil at kindergarten received a letter explaining the research and inviting them to participate. For each child whose parents signed the informed-consent form, the kindergarten teacher was asked to complete a questionnaire on the quality of social-emotional adjustment of the child (SCBE-30), as well as a general information questionnaire on teacher socio-demographic characteristics (i.e., age, years of work experience, etc.). At the same

period, home visits were conducted by students from a master's degree program in psychoeducation (trained in the administration of psychoeducational tests), to individually assess children's school readiness (Lollipop Test) and to have mothers fill out a general information questionnaire on family socio-demographic characteristics.

At the end of the grade 1 (children's M_{age} = 7.1 years), pupils' academic achievement was tested using standardized school tests (MLTs). Teachers were also asked to fill out a rating scale with respect to children's academic achievement (TRS), a questionnaire on the quality of children's social-emotional adjustment (SCBE), and a general information questionnaire on teacher socio-demographic characteristics (i.e., age, years of work experience, etc.).

Data Analysis

Data analyses proceeded through five steps. First, preliminary analyses were performed to ensure that the basic assumptions were met such as normality of distributions, linear relationships, and homoscedasticity. The correlations between all the variables were examined at this point. Children's sex was not included in the subsequent regression analysis as it was not associated to any of the dependent variables (i.e., TRS and MLTs). Analyses of variance were also performed to assure that the participants who had dropped out of the study did not differ from those who stayed on, with respect to the variables measured at the kindergarten (i.e., SCBE-30, Lollipop Test, children's sex, family income, level of maternal education; all $F \leq 1.85, p \geq .174, \eta^2 = .00$).

Second, in order to verify the criterion-related validity of the TRS vs. MLTs, a multiple regression analysis was performed for each one of the academic achievement measures having the same set of kindergarten variables as predictors, that is, family annual income (ranging from 1 = *less than CAD $10,000* to 8 = *more than CAD $100,000*), level of maternal education (by years), social-emotional adjustment (SCBE-30), and school readiness (Lollipop Test). Third, to verify which one of the academic achievement measures are better predicted by the same set of predictors, we tested the significance of the difference between the multiple correlation coefficients of the regression analyses (R) by performing Fisher's z transformations and t-tests (Cohen and Cohen 1983; Tabachnick and Fidell 2007). We also verified if the contribution of a given predictor was significantly different from one model to another by performing Fisher's z transformations and t-tests with the semi-partial correlation coefficient of the given independent variable.

At the fourth step, the purpose was to estimate the degree to which the TRS and MLTs might be biased by characteristics of the family, the teacher and the child. To reach this goal, the possible contribution of these characteristics on the residual variance of the MLTs on TRS and the TRS on MLTs was verified. The shared variance between the MLTs and the TRS was considered here as an estimated true score of pupils' first year academic achievement, and the additional contribution of the predictors on the residual variance as an estimate of the measurement error – or in the context of our study, an estimate of potential biases. A hierarchical linear regression analysis was performed, entering at the first step the equivalent academic

achievement measure in order to control for the effects of the MLTs on TRS and the TRS on MLTs; at the second step, socio-demographic variables (i.e. family income and level of mother's education), as well as first grade teacher's experience were entered; at the third step, social-emotional adjustment at kindergarten (SCBE-30) was entered; and finally, at the fourth step, the social-emotional adjustment (SCBE) at first grade was entered. Both measures of the social-emotional adjustment were included in the model to better discriminate possible biases related to children's social-emotional characteristics, as these measurements were completed by different respondents (the kindergarten teacher at first, and the first grade teacher 18 months later). Finally, in order to compare the contribution of a given independent variable in both regression models, we tested the differences' significance between the semi-partial correlation coefficient of the given independent variable by performing a Fisher's z transformation followed by a t-test (Cohen and Cohen 1983).

Results

Means, standard deviations, and correlations among study variables are presented in Table 1. The correlation analysis confirmed that TRS and MLTs were positively related, $r = .68$, $p < .01$, suggesting a high level of convergent aspects between both measures of academic achievement. The predictor models of variables collected at kindergarten accounted for more variance in the TRS (47%) than in the MLTs (32%) (see Table 2). The t-test revealed that the multiple correlation coefficients (R) were significantly different, $t\ (236) = 3.09$, $p < .01$, indicating that the

same set of preschool variables were able to explain significantly more of the variance for TRS than the MLTs at the end of first grade.

Specifically, the Lollipop Test was the kindergarten variable most closely associated with both academic achievement measures, which tend to explain a greater proportion of variance of the TRS (22%) than the MLTs (13%), $t\ (231) = 2.17, p < .05$. Regarding the socioeconomic variables from kindergarten, the level of mother's education was positively related to both academic achievement measures, and the family income was positively associated to the TRS (explaining about 1% of the variance). The measures of children's social-emotional adjustment at kindergarten did not contribute to the regression models. Despite some differences on the contribution to the models of each kindergarten measure, *t*-tests did not show significant differences between the proportions explained by each independent variable.

With the intent to estimate the presence of bias in the achievement measures due to family, teacher or children's characteristics, we performed a hierarchical regression analyses for TRS controlling for MLTs, as well as for MLTs controlling for TRS. The results show that, after controlling for the effects of the MLTs (Table 3), the variables that contribute to the variance and were positively related to the TRS were: family income, explaining 1% of the variance; Social Competence scale (SCBE-30) assessed at kindergarten, also explaining only 1% of the variance; and Social Competence scale (SCBE) assessed at the first grade, explaining 3% of the variance. The Anger-aggression scale from grade 1 was negatively related to the TRS, explaining 1% of the variance.

For the MLTs regression model (Table 4), after controlling for the effects of the TRS, only the Anxiety-withdrawal scale (SCBE) measured at grade 1 was negatively related to the MLTs, explaining 2% of the variance.

When comparing the difference of the independent variables unique contribution between the two regression models (Table 3 and 4), the *t*-tests revealed that the Anxiety-withdrawal scale – SCBE explained significantly more variance of the MLTs than the TRS, $t\ (227) = 2.33, p < .05$, and that only the Social Competence scale – SCBE explained significantly more variance of the TRS than the MLTs, $t\ (227) = 4.64, p < .01$. These results suggest that children with higher levels of anxiety were more likely to have lower scores on the MLTs, whereas children presenting more social competence abilities were more likely to have higher scores on the TRS.

Discussion

The goal of the current study was to examine the measurement quality of (TRS and MLTs) based on two assessment methods of pupils' academic achievement largely used in the early school years. As shown in previous studies (Hoge and Coladarci 1989; Südkamp et al. 2012), the results indicate a considerable amount of shared variance between TRS and MLTs. The correlation is strong enough ($r = .68, p < .01$) to suggest a substantial overlap between MLTs and TRS, but also indicates that each measure might independently contribute to the assessment of the pupils' achievement.

The TRS appears to be a more accurate measure of pupils' academic achievement, as the variables from kindergarten – that are known to be robust

predictors of early academic achievement (Chew and Morris 1989; Sirin 2005; Venet et al. 2003) – were able to explain significantly more the variance of the TRS than the MLTs assessed at grade 1. Surprisingly, the Lollipop test, a standardized measure of school readiness, explained a greater proportion of the variance of the TRS than the MLTs. This result could be explained by the fact that the Lollipop Test and the MLTs, even though they are both direct and standardized measures of children's performance, have substantial differences in their design and administration. The Lollipop Test is a one-on-one test designed to be attractive to children, having stimulus images such as kittens and colourful lollipops, and it was administered at home. On the other hand, the MLTs consist of a more formal literacy and mathematics test with black-and-white images, administered in groups at school. Therefore, it is possible that some aspects of the design and administration of standardized tests affect children's performance, preventing the assessment of children's their full potential (Bagnato 2005; Pellegrini 2001).

As suggested by the model of teacher judgment accuracy (Südkamp et al. 2012), our findings also indicate that characteristics of the students are related to the measures of their academic achievement. Moreover, the analyses of comparisons between MLTs and TRS show that these two measures might be differentially associated with children's socio-affective profile. The pupils who were perceived by their teachers as having more social competencies were more likely to present a better academic achievement on the proportion of TRS's variance that is not explained by MLTs. The pupils who present a higher level of social aspects such as confidence,

tolerance, sociability, autonomy, and cooperation were more likely to be rated by their teachers as having a higher academic achievement. Our data also indicate that teachers had a tendency to rate students who present more aggressive and oppositional behaviours as having a lower academic achievement. These results lead to different interpretations. They may reflect a possible teacher bias in favour of cooperative pupils, such as a halo effect leading both ratings in the same direction (Dompnier, Pansu, and Bressoux 2006); but they might also be related to the fact that children with deficits in behavioural regulation are more likely to have difficulties using higher cognitive processes (e.g., working memory, attention, and planning), affecting their capacity to learn and perform at school (Graziano et al. 2007; Malecki and Elliott 2002; Monette, Bigras, and Guay 2011). Our results also show that the measure of pupils' social competences at kindergarten – reported by a different respondent – was also related to the TRS, which appears to be consistent with the hypothesis that children's social behaviours may influence their learning process. Other studies indicate that young children with a high level of social competencies are more likely to have successful coping skills and better relationship with teachers and peers, which in turn facilitate learning and foster academic engagement/motivation (Graziano et al. 2007; Roorda et al. 2011). Indeed, several studies have examined the link between student-teacher relationship and children's academic achievement, showing that positive student-teacher interactions, characterized by warmth and open communication, can predict concurrent and later

academic achievement (O'Connor and McCartney 2007; Pianta and Stuhlman 2004; Valiente et al. 2008; Roorda et al. 2011).

On the other hand, after controlling for the effects of the TRS on MLTs, the results suggest that the MLTs scores were affected by students' level of anxiety. Based on the assumption that the performance of young children can be negatively affected by factors of the formal testing situation (Bagnato 2005; Pellegrini 2001), a possible explanation for this result is that pupils perceived by teachers as anxious are more likely to have difficulties coping with stressors during the test administration. Another potential mechanism by which anxiety may affect children's early academic achievement is through the quality of the learning process. Elementary pupils with anxiety may be less able to learn and use higher cognitive functions, which in turn negatively affects their academic performance (Grover, Ginsburg, and Ialongo 2007; Normandeau and Guay 1998; Seipp 1991), and consequently increases their risk for dropping out of high school years later (Duchesne et al. 2008).

Overall, this study provides evidence that both measures have valuable potential in the measurement of children's academic achievement in the early school years, although the TRS appears to be predicted to a greater degree by external criterions collected at kindergarten. Our research extended previous studies in this area by examining students' and teachers' characteristics that might be related to teachers' judgments and standardized tests. Another strength of our study is the participation of several schools and more than eighty elementary school teachers. As

a consequence, the results are less likely to be affected by specific characteristics of a particular school/teacher, reinforcing the external validity of our findings.

A limitation of our research is that we used what Südkamp et al. (2012) defined as uninformed teachers' judgments (e.g., teachers were asked to rate students in literacy and mathematics on a 5-point rating scale). On the informed judgments, otherwise, teachers are asked specifically to estimate students' performance on a standardized achievement test (e.g., by indicating students' potential responses on each item of the test). Even if the majority of the studies in the area employed uninformed teachers' judgments, some studies have indicated that uninformed judgments could result in lower judgment accuracy than do informed judgments (Hoge and Coladarci 1989; Südkamp et al. 2012).

Considering that educational research often requires rapid and cost-effective methods, according to our findings, the TRS appears to be a valid alternative, particularly when large samples are used in research contexts. In the school context, the brief teacher rating scales could also be useful as a screening tool for the early identification of children at risk of failure. Yet, the fact that teachers' judgments appear to detect relevant interpersonal differences among pupils at the end of first grade may be advantageous, considering that children's social competencies are reported to be related to concurrent and later academic achievement (Graziano et al. 2007; Dobbs et al. 2006; Malecki and Elliott 2002), and to quality of the child-teacher relationship (Baker 2006; Pianta and Stuhlman 2004). Nevertheless, since our results also suggest that teachers' judgments might be influenced by children's

characteristics, for example, disfavouring turbulent children, a more valid assessment protocol might involve other data sources. Thus, further research might focus on the increment validity of these sources to address the complex issue of the complementarity of diverse approaches in the assessment of academic achievement.

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Table 1
Means, Standard Deviations and Correlations of Study Variables

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	*M* (range)	*SD*
1. TRS scores	–													3.62 (1-5)	1.19
2. MLTs scores	.68**	–												69.05 (0-100)	14.84
3. Sex[a]	.04	.09	–											0.50 (0-1)	
4. Family income	.34**	.29**	-.08	–										4.02 (1-8)	1.68
5. Level of mother's education	.29**	.28**	-.14*	.42**	–									12.39 (3-19)	3.09
6. Teacher's years of experience	.13*	.10	.09	.08	-.12	–								16.29 (1-38)	11.48
7. Lollipop Test	.64**	.52**	.14*	.29**	.19**	.07	–							49.81 (0-69)	10.84
8. Social Competence[b]	.36**	.30**	.13*	.06	.13*	.00	.38**	–						4.39 (1-6)	0.77
9. Anxiety-withdrawal[b]	-.28**	-.25**	.00	-.17**	-.23**	-.01	-.30**	-.49**	–					2.01 (1-6)	0.68
10. Anger-aggression[b]	-.23**	-.19**	-.17**	.00	-.06	.00	-.25**	-.62**	.16*	–				1.76 (1-6)	0.69
11. Social Competence[c]	.55**	.42**	.09	.20**	.19**	.08	.52**	.47**	-.41**	-.40**	–			4.34 (1-6)	0.75
12. Anxiety-withdrawal[c]	-.50**	-.47**	.00	-.22**	-.21**	-.08	-.45**	-.34**	.43**	.16*	-.73**	–		2.20 (1-6)	0.69
13. Anger-aggression[c]	-.15*	-.11	-.20**	-.05	-.04	.00	-.17**	-.36**	-.01	.60**	-.47**	.19**	–	1.94 (1-6)	0.73

Note. TRS scores = mean of reading, writing and mathematics scales; MLTs scores = addition of Literacy and Mathematics scores.
[a] 0 = boys, 1 = girls. [b] SCBE-30 = Social Competence and Behavior Evaluation Scale – Short form, measured at the kindergarten.
[c] SCBE = Social Competence and Behavior Evaluation Scale, measured at the end of first grade.
$^{*}p < .05$. $^{**}p < .01$.

Table 2
*Summary of Multiple Regression Analyses for Kindergarten Variables Predicting the Teacher Rating Scale (TRS) and the Mathematics and Literacy Achievement Tests (*MLTs*)*

Variables	TRS					MLTs				
	b	*SE b*	β	R^2	ΔR^2	*b*	*SE b*	β	R^2	ΔR^2
				.47	.46***				.32	.30***
Family income	0.07	0.03	.12*			0.05	0.03	.10		
Level of mother's education	0.04	0.02	.12*			0.04	0.02	.14*		
Social Competence[a]	0.14	0.09	.12			0.11	0.09	.10		
Anxiety-withdrawal[a]	-0.01	0.08	-.01			-0.03	0.08	-.02		
Anger-aggression[a]	-0.03	0.08	-.02			-0.01	0.09	-.01		
Lollipop Test	0.05	0.00	.53***			0.03	0.00	.42***		

[a] Social Competence and Behavior Evaluation Scale – Short form (SCBE-30)
*$p < .05$. ***$p < .001$.

Table 3

Summary of Hierarchical Linear Regression Analysis for Variables Related to Family, Teacher or Children's Characteristics Predicting Teacher Rating Scale (TRS), Controlling for the Mathematics and Literacy Achievement Tests (MLTs)

Variables	*b*	*SE b*	β	R^2	ΔR^2
Step 1				.46	.46***
MLTs	0.72	0.05	.68***		
Step 2				.49	.48**
Family income	0.07	0.03	.12*		
Level of mother's education	0.02	0.02	.08		
Teacher's years of experience	0.01	0.00	.07		
Step 3				.52	.51**
Social Competence (SCBE-30)	0.17	0.08	.14*		
Anxiety-withdrawal (SCBE-30)	-0.04	0.08	-.03		
Anger-aggression (SCBE-30)	-0.04	0.08	-.03		
Step 4				.58	.56***
Social Competence (SCBE)	0.40	0.09	.32***		
Anxiety-withdrawal (SCBE)	-0.02	0.09	-.02		
Anger-aggression (SCBE)	0.16	0.08	.12*		

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

Table 4

Summary of Hierarchical Linear Regression Analysis for Variables Related to Family, Teacher or Children's Characteristics Predicting Mathematics and Literacy Achievement Tests (MLTs), Controlling for the Teacher Rating Scale (TRS)

Variables	*b*	*SE b*	β	R^2	ΔR^2
Step 1				.46	.46***
TRS	0.64	0.04	.68***		
Step 2				.47	.46
Family income	0.02	0.03	.04		
Level of mother's education	0.02	0.01	.08		
Teacher's years of experience	0.00	0.00	.02		
Step 3				.48	.46
Social Competence (SCBE-30)	0.06	0.08	.05		
Anxiety-withdrawal (SCBE-30)	-0.03	0.07	-.02		
Anger-aggression (SCBE-30)	-0.00	0.08	-.00		
Step 4				.50	.47*
Social Competence (SCBE)	-0.11	0.10	-.10		
Anxiety-withdrawal (SCBE)	-0.26	0.09	-.21**		
Anger-aggression (SCBE)	0.01	0.08	.01		

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

CHAPITRE III

PERSONAL AND FAMILY CHARACTERISTICS OF ACADEMICALLY RESILIENT YOUNG CHILDREN

(ARTICLE 2)

Personal and family characteristics of academically resilient young children

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Abstract

Although research has established some personal and family characteristics of resilient children, their contributions to the specific process of academic resilience in the context of poverty are less well documented and understood. This study aimed to identify preschoolers' and parents' attributes (i.e., cognitive and socio-affective competencies, low level of parenting stress) that might be characteristic of low-income children who had high academic achievement at the end of the first grade. The total sample included 321 children (154 boys, 167 girls) and their families. Results suggest that academically resilient children (low income, high academic achievement) had better social competencies, less aggressive behaviors at kindergarten and their parents experienced lower level of parenting stress compare to their maladaptative peers (low income, low academic achievement). Also, children who succeeded in first grade had higher IQ scores at kindergarten, regardless of their family income. These findings have implications for identification of targets for early intervention among low-income children and their families.

Keywords: academic resilience, elementary school students, socio-affective competencies, cognitive competencies, parenting stress

Personal and family characteristics of academically resilient young children

Socioeconomic background has been one of the strongest predictors of children's academic achievement and cognitive skills (Duncan & Brooks-Gunn, 2000; Sirin, 2005; McLoyd, 1998). Economically disadvantaged children are more frequently exposed to risk factors for school failure such as low parental education or unemployment, single parenthood, lack of social support, inconsistent parenting practices, family conflicts, physical illnesses, caregiver psychopathology and so on (for a review, see Evans, 2004; Felner & DeVries, 2013). Numerous studies have demonstrated the impact of these factors on pupils' academic achievement, indicating that young children growing up in poverty are more likely to begin school lagging behind their more advantaged peers, which compromises their future in multiple ways (Brooks-Gunn & Duncan, 1997; Masten & Tellegen, 2012; Pagini, Boulerice, Vitaro, & Tremblay, 1999).

While the link between low socioeconomic status and low academic achievement is relatively strong (r_{mean} = .299; Sirin, 2005), it is likely that some at-risk children are able to thrive academically and obtain positive outcomes despite exposure to adversity. These children are referred to as academically resilient, in which resilience is viewed as a complex process involving both internal and external factors, where a network of bi-directional relationships between child, family, school, peers, neighborhood and wider society factors come into play to overcome environmental risk experiences (Kaplan, 2013; Rutter, 2012; Ungar, Ghazinour, & Richter, 2013). Moreover, findings have acknowledged the multidimensional and

dynamic nature of resilience, since children's level of adaptation may fluctuate within different domains and contexts, as well as within various stages of life (Luthar, Cicchetti, & Becker, 2000). Thus, a child who manifests competence in one domain such as early academic achievement may not necessarily be competent in other domains (i.e. behavioral competence), or at a different developmental stage.

Research strategies that have been used in studies of resilience fall in two complementary perspectives: variable-based and person-based approaches (see Luthar & Cushing, 1999, for a detailed review of research models and measurement issues). Variable-based approaches aim to capture the specific process involved in, for example, academic resilience, by detecting possible main and interaction effects among measures of risk, competence, and potential influencing factors. Nonetheless, approaches that focus on variables do not fully capture the features associated with heterogeneity in response to risk (Rutter, 2012); also, many researchers caution that findings involving interactions tend to be unstable and susceptible to specific characteristics of a given sample (Luthar et al., 2000). Person-based approaches focus on the individual differences in response to adversity and tend to understand how resilience develops by comparing resilient individuals with others facing similar risks who were not faring as well, and also with those who are similar in outcome but who were not exposed to similar risks. These analyses have the potential to reveal which resources are characteristic of positive adaptation in the context of adversity, and whether they are commensurable with those shown by low-risk individuals. The identification of resources that might help children at risk to achieve at school is the

first step in the investigation of the underlying processes whereby protection transcends risk. To date, few studies have examined the resources involved in the specific process of academic resilience among young children in the context of poverty; yet, one of the major public health and educational goals in developed countries is to ensure the academic achievement of disadvantaged children. The lack of knowledge on the mechanisms leading to academic resilience could partially explain why many forms of intervention designed to promote academic resilience had limited success at scaling down the socioeconomic-achievement gap in early schooling (Ceci & Papierno, 2005; Reardon, 2011). In the context of our study, we aim to identify personal and family characteristics generally associated with resilience that have not been studied for their specific contribution to academic achievement in the context of adversity. These resources are often grouped according to whether they belong to the class of so-called child or family-level factors.

Among child-level factors, two characteristics of resilient children most often mentioned are good cognitive skills and easy temperament (Condly, 2006; Masten & Coatsworth, 1998; Werner, 2013). Regarding the cognitive skills, for example, Masten et al. (1999) found in their longitudinal study that resilient adolescents (with regards to academic achievement, conduct behaviors, and peer social competence) were those who presented higher IQ scores measured years before, at late childhood, when compared with their maladaptive peers exposed to similarly high levels of adversity. However, the processes underlying the connection between good intellectual abilities and academic resilience are not entirely clear. IQ scores reflect

multiple cognitive processes, such as attention, memory, behavioral inhibition, reasoning, as well as motivation (Curtis & Cicchetti, 2003). Perhaps good intellectual abilities help children at risk to understand adverse and favorable situations around them, to distinguish between what is possible to change and what is not, and to seek out effective coping mechanisms (Condly, 2006). More intelligent children appear to have better abilities to concentrate, retain information, solve problems, and control their impulses (Masten & Coatsworth, 1998), enabling them to benefit from learning situations and to get along well with peers and teachers, which might in turn lead to a positive inner view of their own ability.

Easy temperament also appears to benefit children exposed to adversity, which is characterized by presenting good social competencies – that is, the ability to handle social situations, to take another's perspective, to learn from past social experiences, and to apply that learning to new social contexts (Semrud-Clikeman, 2007). Children's social competencies have been linked to adaptive functioning in many domains of development, such as emotion regulation (Denham et al., 2003), behavior problems (Lansford et al., 2006; Burt, Obradović, Long, & Masten, 2008; Henricsson & Rydell, 2006), and academic outcomes (Caprara, Barbaranelli, Pastorelli, Bandura, & Zimbardo, 2000; Malecki & Elliot, 2002; Welsh, Parke, Widaman, & O'Neil, 2001). Children with good social competencies appear to have better self-regulation skills, which may allow them to manage negative and positive emotions effectively, as well as to elicit more favorable responses from caregivers,

teachers, and peers. The longitudinal study of Obradović, Burt and Masten (2010), for example, suggests a positive correlation between social competence and concurrent academic achievement at late childhood, as well as a predictive association between late childhood social competence and adolescent internalizing problems, regardless of the levels of child's adversity exposure such as financial stressors.

Within the family-level characteristics, parents' ability to effectively cope with stress related to daily challenges of parenthood appears to prevent children from facing negative outcomes (Crnic & Low, 2002). In addition to the typical demands of parenting, low-socioeconomic parents are exposed to a greater number of life stressful life events that may create conditions under which parenting can be more stressful for some adults. In a study with pupils coming from private preschools as well as preschool programs for low-income children, higher parenting stress ratings – deriving from parent-child interactions, children's behavioral traits, as well as personal factors related to the parental role – were linked to children's lower levels of social competence, and higher levels of internalizing and externalizing behaviors in the classroom, with no significant differences between the types of preschool program (Anthony et al., 2005). With respect to possible pathways linking parenting stress and children's functioning, there is a widely held assumption that parenting behavior – typically assessed in terms of parenting practices, and emotion expression – may mediate the relation between parents' ability to manage parenting stress and child outcomes, even though contradictory results have been published (Whittaker,

Harden, See, Meisch, & Westbrook, 2011; Anthony et al., 2005; Bagner et al., 2009). Whether mediated or not, parenting stress is suggested to be a determinant of a multitude of adverse children's emotional and behavioral outcomes (Crnic & Low, 2002). Yet, the possible benefit of a low-stress and emotionally favorable home environment for children's academic achievement in adverse context has been less well documented and understood.

In sum, even though children from socioeconomically disadvantaged families are more likely to experience difficulties in a wide range of developmental outcomes, studies on competence and resilience suggest that specific children's and parents' characteristics may protect them from the risks and foster positive outcomes (Werner, 2013). These characteristics include children's intellectual, social and emotional competencies (Condly, 2006; Masten et al., 1999), as well as low level of parenting stress (Crnic & Low, 2002). Although large-scale longitudinal studies of resilience have demonstrated the importance of such characteristics for children's adaptation at later stages of their lives (Werner, 2013), most studies have focused on middle childhood and adolescence. Little is known about the process of academic resilience among preschoolers exposed to poverty. This is surprising considering that efforts to reduce the effects of poverty on academic achievement are focused mainly on early childhood (Camilli, Vargas, Ryan, & Barnett, 2010). Therefore, the purpose of the current study is to verify if preschoolers' cognitive and socio-affective competencies and low level of parenting stress might be characteristic of children at risk who succeeded academically at the end of the first grade. The current study

operationalized resilience as having average/high academic achievement at first grade (our competence criteria), despite coming from low-income/high-risk families. By comparing with low-risk children (from middle/high-income families), the aim is to investigate whether the qualities presented by resilient children are commensurable with those shown by low-risk pupils, as well as to verify if these attributes were specifically involved in the process of academic resilience (i.e., potential protective factors), or if they would operate in the same way for those not exposed to risk.

Method

Participants

This study included 321 francophone children at kindergarten (154 boys, 167 girls, M_{age} = 5.5 years old) recruited in 47 preschools, located in the Estrie region of Quebec, Canada. The exclusion criterion was the presence of any intellectual, physical or sensorial disability reported by parents or detected during test administration of our study. The first time point of measurement was at the end of the first kindergarten semester, with the participation of 81 preschool teachers (all women), with experience ranging from 1 to 35 years ($M_{experience}$ = 14 years), as well as 309 mothers and 12 fathers. The second time point of measurement was at the end of the first grade (18 months later), and included 54 elementary schools and 88 certified teachers (4 men, 84 women), with experience ranging from 1 to 38 years ($M_{experience}$ = 16 years).

Families were diverse in socioeconomic status and family structure, as was characteristic of the school population in the region at the time. Of the sample, 84%

children were living with both parents. Approximately one third of the families (34%) had an annual income considered modest (less than CAD $30,000), 35% had middle income (between CAD $30,000 and $50,000), and 31% had high income (more than CAD $50,000). Parent's average age was 32 years old for the mothers and 35 years old for the fathers. Regarding the parental level of education, 57% of mothers and 65% of fathers had an education level no higher than high school degree, 25% of mothers and 20% of fathers had a college degree, and 18% of mothers and 15% of fathers had an University Undergraduate Diploma or higher.

Measures at Kindergarten

Socio-affective competencies. Kindergarten teachers were asked to fill out the Social Competence and Behavior Evaluation Scale – Short form (SCBE-30; LaFreniere & Dumas, 1996). This standardized questionnaire allows evaluation of preschool children's social competencies and behavior problems on 30 items rated using a 6-point scale (from "never occurs" to "always occurs"). The instrument provides 3 summary scales: 1) Social Competence, 2) Anxiety-withdrawal, and 3) Anger-aggression. The psychometric properties of the short form are similar to the complete form of the SCBE (with 80 items), presenting very high correlations between the scales (.92 – .97) (LaFreniere & Dumas, 1996). Validation studies with the French version of the test conducted with Quebec children showed that the SCBE-30 scales have excellent internal consistency ($\alpha \geq .85$), good inter-rater reliability (above .83), and satisfactory test-retest reliability over a two-week interval (above .78) (Venet, Bigras & Normandeau, 2002).

Intellectual abilities. Children's intellectual abilities were assessed with the Wechsler Preschool and Primary Scale of Intelligence – Revised (WPPSI-R) (Wechsler, 1989). Four subscales were administered: 2 verbal subscales (Information and Comprehension) and 2 performance subscales (Blocks and Geometric Figures). These subtests has moderate to high correlation with the Full Scale of the test (.54 – .71; Sattler, 2001). Studies indicate good concurrent validity of the WPPSI-R and various academic achievement is (r_{mean} = .62; Sattler, 2001).

Parenting stress. Parents were asked to fill out the short form of the Parenting Stress Index (PSI-SF; Abidin, 1990), which consist of 36 items rated on a 5-point Likert scale (from "strongly disagree" to "strongly agree"). The instrument provides a total score, as well as three subscales of 12 items each: Parental Distress, Parent-Child Dysfunctional Interaction, and Difficult Child. The Parental Distress subscale measures stresses related to the parent's sense of parenting competence, conflicts with his/her spouse/partner, social support, depression, and those associated with restrictions that parenting puts on his/her life. The Parent-Child Dysfunctional Interaction subscale assesses the extent to which the parent believes that his/her child meets their expectations and is satisfied with their interactions with the child. The subscale of Difficult Child focuses on the parent's perception of child's behavioral traits, and it could indicate if the child is having problems in the mechanisms of self-regulation. The total score of this measure is highly correlated to the total score of the PSI full form (.87), and has good test-retest reliability (.84) and internal consistency (.91) (Abidin, 1990).

Measure at First Grade

Academic achievement. At the end of the first grade, teachers were asked to rate each pupils' performance in reading, writing, and mathematics using the Teacher Rating Scales (TRS), with scores ranging from 1 to 5 (1 = well below average, 3 = average, and 5 = well above average). The TRS relies on teacher's judgments of pupils' academic competencies in the context of children's everyday activities. These scales were developed based on those from the Academic Performance section from the Teacher's Report Form (TRF) of the Achenbach System of Empirically Based Assessment (ASEBA; Achenbach & Rescorla, 2001). The scores of the three scales (reading, writing and mathematics) were found to have high degree of internal consistency reliability (average inter-item correlation of .82). Since the three scales were highly correlated, a total TRS score was calculated for subsequent analyses by taking the mean of the scales' z-scores. Studies have observed that this assessment method of academic achievement is as accurate as or even more accurate than standardized achievement tests regarding different psychometric properties such as criterion-related validity (Forget-Dubois et al., 2007; Hecht & Greenfield, 2001; Meisels, Bickel, Nicholson, Xue, & Atkins-Burnett, 2001).

Procedure

The data collection was separated in two time points of measurement: at the end of the 1st kindergarten semester, and at the end of the first year of elementary school (18 months later). After the approval of the current research project by the Institutional Ethics Committee of Research Involving Humans (CÉR – Université de

Sherbrooke), the parents of every pupil at kindergarten received a letter explaining the research and inviting them to participate. For each child whose parents accepted to participate and signed the informed-consent form, the kindergarten teacher was asked to complete questionnaires on the quality of socio-affective competencies of the child (SCBE-30). At the same period, home visits were conducted by students from Master's Degree in Psychoeducation Program (trained in the administration of the tests use in our study), to individually assess children's intellectual abilities (WPSSI-R) and to ask one of the parents (309 mothers and 12 fathers) to fill out the PSI-SF and a general information questionnaire on family socio-demographic characteristics. At the end of the first grade (children's M_{age} = 7.1 years), teachers were asked to fill out a rating scale about pupil's academic achievement (TRS), as well as a general information questionnaire on teacher socio-demographic characteristics (i.e., age, years of work experience).

Data Analysis

In order to compare children by their level of risk, they were separated into 2 groups (*low-income children* and *middle/high-income children*) using the Statistics Canada's before-tax Low-Income Cut-Off – LICO (Statistics Canada, 2012). The LICO is an income threshold below which a family devotes at least 20% more of its income on the necessities of food, shelter and clothing than the average family in Canada, adjusted for family size and area of residence's population. Ninety-nine participants (31%) in our sample were considered as *low-income children* (high-risk group) as they were growing up in a household with disposable annual income below

LICO. The other 222 participants were considered as *middle/high-income children* (low-risk group).

The competence criteria of academic achievement at first grade was defined by using teachers ratings of pupils' academic achievement (TRS total score). Children with academic achievement rated by teachers as below average were classified as *low academic achievement*, which represents 13% of the sample; the children presenting average or above average performance were classified as *average/high academic achievement* group (87%). By crossing the academic achievement groups with the level of risk groups (family income), we were able to identify 4 groups of children, often referred to in the literature in resilience as : 1) *academically resilient*: high-risk with average/high academic achievement (24% of our sample); 2) *academically competent*: low-risk with average/high academic achievement (63%); 3) *maladaptative*: high-risk with low academic achievement (7.5%); and 4) *vulnerable*: low-risk and low academic achievement (7.5%). Throughout the results and discussion sections, these terms – *resilient*, *competent*, *maladaptative* and *vulnerable* – were used to refer to the different groups of children in the sample. However, the findings need to be understood with respect to the criteria used here to define both competence and risk, that is, the process of academic resilience among low-income children.

Preliminary analyses were performed to ensure that the basic assumptions are met such as normality of distributions, linear relationships, and homoscedasticity. The correlations between all the variables were also examined at this point. Analyses

of variance were performed to assure that the participants who had dropped out of the study did not differ from those who stayed on, with respect to the variables measured at the kindergarten (i.e., SCBE-30, WPPSI-R, PSI-SF, children's sex, family income; all $F \leq 3.16, p \geq .08, \eta^2 < .00$).

In order to verify if children's and parents' attributes measured at kindergarten (SBCS, WPPSI-R, and PSI-SF) differ across the different groups of academic achievement and family income, factorial analyses of variance were conducted for each attribute, having academic achievement, family income, as well as children's sex as factors (2 x 2 x 2 factorial design). Since the main purpose was to identify personal and family characteristics of academically resilient children, the current study was particularly interested on the interaction effects between our risk and competence criteria, that is, academic achievement and family income. If interaction effects were statistically significant, one-way ANOVAS were performed to clarify group differences.

Results

Correlations, means, and standard deviations for all study variables are presented in Table 1. Personal and family attributes of resilient children were identified by performing factorial analyses of variance for each attribute measured at kindergarten, having academic achievement (competence criteria), family income (risk criteria), and children's sex as factors. Results for children's socio-affective attributes show significant interaction effects between academic achievement and family income on the Social Competence and the Anger-Aggression SCBE-30 scales;

no significant effects were found on the Anxiety-withdrawal scale (see Table 2 and Figure 1). Specifically, low-income children who had average/high academic achievement at first grade (*resilient* group) had significantly higher scores of Social Competence at kindergarten than their *maladaptative* peers (i.e., low-income children with low academic achievement), $F(1, 98) = 17.72$, $p < .01$. No significant difference was found between the Social Competence scores of the *resilient* group and the *competent* group (i.e., middle/high-income children with average/high academic achievement), $F(1, 278) = 0.10$, $p = .74$. In addition, the *maladaptative* group of children were higher rated by their kindergarten teachers on the Anger-Aggression scale than the *resilient* group, $F(1, 98) = 9.32$, $p < .01$. These results indicate that children at risk (i.e., from low-income families) who had average/high academic achievement at first grade were rated at kindergarten as having more social competencies and less aggressive behaviors than their *maladaptative* peers. On the other hand, no significant differences were found on socio-affective attributes among *competent* and *vulnerable* groups, $F(1, 221) = 1.12$, $p = .29$ for the Social Competence scale; $F(1, 221) = 1.20$, $p = .27$ for the Anger-Aggression scale.

For children's intellectual abilities, there was a significant main effect of academic achievement, that is, children with average/high academic achievement had significantly higher IQ scores (WPPSI-R) than their low academic achievement peers, regardless of their family income and children's sex (see Table 2 and Figure 1). Among the average/high academic achievement children, a significant difference in the mean IQ scores was found between *resilient* and *competent* group, indicating that

the mean score of the *resilient* group was slightly lower than the one obtained by the *competent* group, $F(1, 278) = 4.91$, $p < .05$. There was also a significant interaction effect between family income and children's sex on pupil's intellectual abilities, suggesting that boys had significantly higher IQ scores than girls when coming from low-income families, $F(1, 98) = 4.50$, $p < .05$. Conversely, girls had higher IQ scores than boys when coming from middle/high-income families, $F(1, 221) = 12.80$, $p < .01$. In addition, our results indicate that middle/high-income girls had higher IQ scores than low-income girls, $F(1, 166) = 28.73$, $p < .01$; the same was not true for the boys, as the IQ scores did not significantly differ between the two family income groups, $F(1, 153) = 0.22$, $p = .64$.

With respect to the parenting stress, a significant interaction effect between academic achievement and family income was found only for the Parental Distress subscale (see Table 3). The *resilient* group had significantly lower scores of Parental Distress at kindergarten than the *maladaptative* group, $F(1, 98) = 5.92$, $p < .05$ (see Figure 1). Furthermore, there was no significant difference of Parental Distress scores among the *resilient* and the *competent* group, $F(1, 278) = 1.21$, $p < .27$. These results suggest that low-income parents whose children had average/high academic achievement (*resilient* group) reported levels of parenting stress – coming from personal factors related to their role as a parent – comparable to the middle/high-income parents, and that are significantly lower than those reported by parents of the *maladaptative* group.

Discussion

This study investigated whether children's cognitive and socio-affective competencies as well as low level of parenting stress might be characteristic of low-income preschoolers' who were able to academically achieve at the end of the first grade. With respect to children's socio-affective profile, it was found that higher social competencies and lower rate of aggressive behaviors at kindergarten seems to contribute to later academic achievement only for low-income children (*resilient* group). In contrast to previous studies where social competencies and emotional regulation skills appears to be related to better academic outcomes for all children (Caprara et al., 2000; Malecki & Elliot, 2002; Welsh et al., 2001), findings in the current sample indicate that socio-affective competencies may facilitate academic achievement for children at risk, but not necessarily for those not exposed to risk. These results suggest that some traits might work differently in the presence of adversity; and that is what characterizes resilience. According to Rutter (2012), resilience focuses on individual variations in response to comparable adversity experiences, and successful coping may derive from traits or circumstances that are neutral in the absence of risk. Consistent with this implication, the current data shows that an early socio-affective profile appears to have a specific contribution to the process of academic resilience, since it did not differentiate low-risk children who academically achieved from those who did not. Thus, it can be assumed that a child who presents good social competencies and less disruptive behavior prior to school entry may be better equipped to cope and overcome specific risks related to a

family's low socio-economic status, such as the lack of supportive relationships and learning experiences at home, and to effectively adjust and achieve at school.

The results are also consistent with evidence from other studies involving older children (third grade and over) that intellectual functioning facilitates adaptive functioning such as academic achievement (Masten et al., 1999; Condly, 2006). Results from the current sample show that pupils with average/high academic achievement at first grade had higher IQ scores at kindergarten than their low academic achievement peers, regardless of their family income, suggesting that intellectual functioning may play a role that is not specific to the academic resilience process, as it appears to foster academic achievement for both socioeconomic advantaged and disadvantaged children. Yet, a significant difference was found in the mean IQ scores within the high/average-academic-achievement group – with resilient scoring lower than the competent group. Thus, even though academically resilient children had good IQ scores at kindergarten, they were somewhat behind their more advantaged peers, which could be explained by potential negative effects of adverse factors inherent in low-socioeconomic families on children's cognitive skills (Duncan & Brooks-Gunn, 2000; Sirin, 2005; McLoyd, 1998). These adverse factors might include the absence of cognitive stimulation (i.e., books, toys, recreational and educational materials), as well as excessive television viewing and less healthy and learning activities such as music and sports.

Although various studies have documented the negative association between parenting stress and children's emotional and behavioral outcomes (Crnic & Low,

2002), the relation among parenting stress and pupils' academic achievement is less well understood, especially in the context of poverty. Our results show that parents of the *maladaptative* group reported significantly more parenting stress on the Parental Distress subscale at kindergarten than did those of the other groups (*academically resilient*, *competent*, and *vulnerable groups*). This finding provides evidence that lower levels of parenting stress at kindergarten may foster academic achievement at first grade only for low-income children. From a conceptual perspective, it is important to note that the Parental Distress subscale is less focused on the children's temperament and behaviors than the other two subscales of the PSI-SF used in our study; instead, it assess parents' personal factors directly related to the demands of being a parent, such as conflicts with their partner, restrictions that the parenting puts on their life, perceived social support, their own sense of parenting competence, and signs of depression. Also, as noted by Crnic and Low (2002), the PSI reflects more problematic than normative-every-day stressors of parenting, and its focus is more toward the pathological spectrum. Therefore, it is not surprising to find strong associations between parenting stress and less adaptive outcomes for parents, such as negative mood, psychological distress, and low life satisfaction (Crnic & Low, 2002). Low-income parents are more likely to be overwhelmed by their work and parenting responsibilities, as well as to present ineffective coping skills, diminished self-esteem, and a sense of powerlessness, all of which may lead to harsh disciplinary strategies (Hill, 2006), lack of warmth and sensitivity (Evans, 2004), and general failure to focus on children's needs and to form solid and healthy relationships with

them (Sherry, Adelman, Farwell, & Linton, 2013). Thus, parents from poor households who are better able to cope with stress and establish a more supportive and sensitive relationship with their children may provide them the core guidance needed to develop effective socio-affective competencies and problem-solving skills, which will in turn benefit young children's learning and adjustment at school.

It should be noted that the *resilient* and *competent* groups did not differ on levels of socio-affective profiles and parenting stress, which corroborates with previous studies showing that the assets and resources of resilient children commensurate with those of more advantage peers (i.e., Masten et al., 1999). These results provide further support to the idea that resilience is made of ordinary rather than extraordinary processes. As it was pointed out by Masten (2001), competence develops in spite of adversity when basic protective systems in human development are operating to counteract the threats to child's development. This view of resilience as a process involving ordinary adaptive resources and systems is a much more promising direction for action than the idea that superior functioning is required to overcome adversity. Among the basic adaptive resources involved in protective processes in everyday situations, some assumptions that stem from the current study consist of the low-income pupils who, by means of their social competencies, are able to form positive and close relationships with their kindergarten teacher (Hamre & Pianta, 2001), thereby contributing to better classroom adjustment and making up for a potential lack of warm and caring relationships in the family; likewise, parents who are able to manage negative events such as conflicts with other adults (partner,

neighbors) without children witnessing aggressive behaviors or being affected by adults' negative feelings will provide more favorable emotional environment, as well as modeling and teaching opportunities to learn healthy coping skills.

This study has some limitations that need to be considered. First, there was a small sample size in both *maladaptative* and *vulnerable* groups, since only 13% of our sample had low academic achievement at first grade. So, there might not have been sufficient statistical power to detect significant differences among the groups. Although this study included two measuring points with a time interval of a year and a half, longitudinal research involving longer periods of time is needed to examine whether these children's and parents' attributes may foster academic achievement over elementary and secondary school years, as well as to identify possible developmental trajectories and subgroups pertinent to understanding academic resilience. In addition, further work may include not only personal and family characteristics, but also classroom and school-level aspects that children are exposed to (such as classroom climate, teaching styles, and school-wide discipline policy), in order to get a richer picture of the factors potentially involved in the process of academic resilience. The inclusion of different dimensions of children's adjustment at school may also be helpful in future works, since the adaptive resources involved in protective processes possibly will vary depending on the competence criteria adopted in the study (i.e., social adjustment in school).

One strength of this study is the inclusion of both low and average/high-income families, which enables examination of the presence of personal and family

resources specific to the process of academic resilience; it also allowed the study to determine whether the qualities presented by resilient children are actually commensurate with those shown by low-risk children. Another positive point is the study of academic resilience during the transition from kindergarten to elementary school, as this crucial period naturally creates novel and additional challenging situations for both parents and children. Also, the timing of poverty seems to have important differential effects on children's academic outcomes. Children who experienced socioeconomic deprivation during preschool and early school years appear to have lower academic outcomes than children and adolescents who experienced poverty only in later years (Brooks-Gunn & Duncan, 1997; Duncan, Yeung, Brooks-Gunn, & Smith, 1998). As such, the current study brings additional findings to the reflection on academic resilience during this vulnerable development period for children exposed to poverty. In addition, from a methodological point of view, the use of measures administered to different respondents (i.e., preschool teachers, elementary school teachers, parents, and children) help to increase the reliability of the current study's results as they reduce possible effects of respondent bias. Likewise, the participation of several schools and teachers may reduce possible effects of a specific school/teacher on the data, therefore enhancing the external validity of the findings.

To summarize, the results of this study from a person-based approach of academic resilience at the end of first grade indicate that when parenting stress was low and preschoolers' socio-affective were good, low-income children might be able

to overcome adversity. Conversely, the combination of low socioeconomic resources and poor preschoolers' and parents' attributes (i.e., aggressive behaviors, poor social competences, and high parenting stress) appears to be related to maladaptive patterns of academic adjustment. Differently from the socio-affective competencies, good intellectual functioning seems to foster children's academic competence in both socioeconomic favorable and unfavorable family environments. Although these results do not allow us to infer causality, some speculation about the implication of these findings for practice appears appropriate. When working with children from low socio-economic background, professionals may seek to improve children's social competences (e.g., teach basic interaction skills, conflict resolution, assertiveness, empathy), self-regulation skills (e.g., teach emotion recognition, management of negative emotions), as well as to assist parents in using effective coping strategies and sensitive parenting skills that promote positive and supportive environment at home, thereby giving the best opportunities for children to learn and academically achieve. On the whole, the current findings provide empirical support for systemic intervention strategies during kindergarten (e.g., The Incredible Years, Head Start, HighScope Perry Preschool Program) that target children's adaptive resources manifested in the quality of social-competencies and self-regulation, as well as parents' psychological well-being and social support, in order to enhance the development of low-income children and foster later academic achievement.

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Table 1
Means, Standard Deviations and Correlations of Study Variables

Variables	1	2	3	4	5	6	7	8	9	10	*M* (range)	*SD*
1. Academic Achievement [a]	–										0.50 (0-1)	
2. Family income [b]	.16**	–									0.50 (0-1)	
3. Sex [c]	.05	-.03	–								0.50 (0-1)	
4. Social Competence [d]	.20**	.06	.20**	–							4.37 (1-6)	0.83
5. Anxiety-withdrawal [d]	-.11*	-.05	-.05	-.46**	–						2.05 (1-5)	0.72
6. Anger-aggression [d]	-.13*	.01	-.16**	-.62**	.12*	–					1.80 (1-5)	0.77
7. Intellectual Abilities [e]	.42**	.17**	-.09	.25**	-.22**	-.13*	–				9.24 (1.5-16.2)	2.02
8. Parental Distress [f]	-.05	.00	.09	-.13*	.02	.07	.03	–			25.69 (12-55)	7.09
9. Parent-Child Dysfunctional Interaction [f]	.00	-.03	.02	-.14*	.15**	.07	-.08	.45**	–		23.96 (12- 41)	5.13
10. Difficult Child [f]	-.02	-.03	-.10	-.28*	.15**	.27**	-.03	.43**	.60**	–	27.27 (12-48)	7.50

[a] 0 = low academic achievement, 1 = average/high academic achievement. [b] 0 = low income, 1 = middle/high income.
[c] 0 = boys, 1 = girls. [d] Scales from the Social Competence and Behavior Evaluation Scale – Short form (SCBE-30).
[e] Wechsler Preschool and Primary Scale of Intelligence (WPPSI). [f] Scales from the short form of the Parenting Stress Index (PSI-SF).
*$p < .05$. **$p < .01$

Table 2

Academic Achievement x Family Income x Sex Factorial Analysis of Variance for Social Competence [a], Anxiety-withdrawal [a], Anger-Aggression [a], and Intellectual Ability [b]

	Social Competence			*Anxiety-withdrawal*			*Anger-Aggression*			*Intellectual Ability*		
Source	SS	F (1, 313)	η^2	SS	F (1, 313)	η^2	SS	F (1, 313)	η^2	SS	F (1, 313)	η^2
Academic Achievement (A)	8.36	9.17**	.03	3.37	3.55	.01	7.78	8.21**	.02	40.83	52.13**	.14
Family Income (B)	4.83	5.30*	.01	0.00	0.00	.00	0.45	0.49	.00	1.79	2.28	.01
Sex (C)	6.76	7.41**	.02	0.00	0.00	.00	5.53	5.83*	.02	0.28	0.35	.00
A x B	6.32	6.93**	.02	0.11	0.12	.00	3.77	3.98*	.01	0.00	0.00	.00
A x C	0.92	1.01	.00	1.36	1.43	.00	1.85	1.95	.00	0.40	0.51	.00
B x C	3.18	3.49	.01	2.25	2.37	.00	0.08	0.09	.00	9.47	12.08**	.03
A x B x C	0.20	0.22	.00	2.68	2.83	.00	1.00	1.05	.00	1.17	1.49	.00
Error	285.26		.90	297.14		.97	296.77		.93	245.17		.82

Note. [a] Scales from the Social Competence and Behavior Evaluation Scale – Short form (SCBE-30); [b] Wechsler Preschool and Primary Scale of Intelligence (WPPSI).

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

Table 3

Academic Achievement x Family Income x Sex Factorial Analysis of Variance for Parental Distress [a] *and Parent-Child Dysfunctional Interaction* [a] *and Parental Distress* [a].

	Parental Distress			*Parent-Child Dysfunctional Interaction*			*Difficult Child*		
Source	SS	F (1, 313)	η^2	SS	F (1, 313)	η^2	SS	F (1, 313)	η^2
Academic Achievement (A)	0.82	0.83	.00	0.11	0.10	.00	0.00	0.00	.00
Family Income (B)	3.21	3.28	.01	0.30	0.29	.00	0.85	0.84	.00
Sex (C)	0.14	0.14	.00	0.02	0.02	.00	3.99	3.97*	.01
A x B	6.82	6.97**	.02	0.01	0.01	.00	0.26	0.26	.00
A x C	2.17	2.22	.01	0.19	0.18	.00	0.75	0.74	.00
B x C	0.09	0.10	.00	0.02	0.02	.00	0.10	0.10	.00
A x B x C	0.12	0.13	.00	0.10	0.10	.00	0.45	0.45	.00
Error	306.38		.96	319.11		.99	314.71		.98

Note. [a] Scale from the Parenting Stress Index – Short form (PSI-SF).

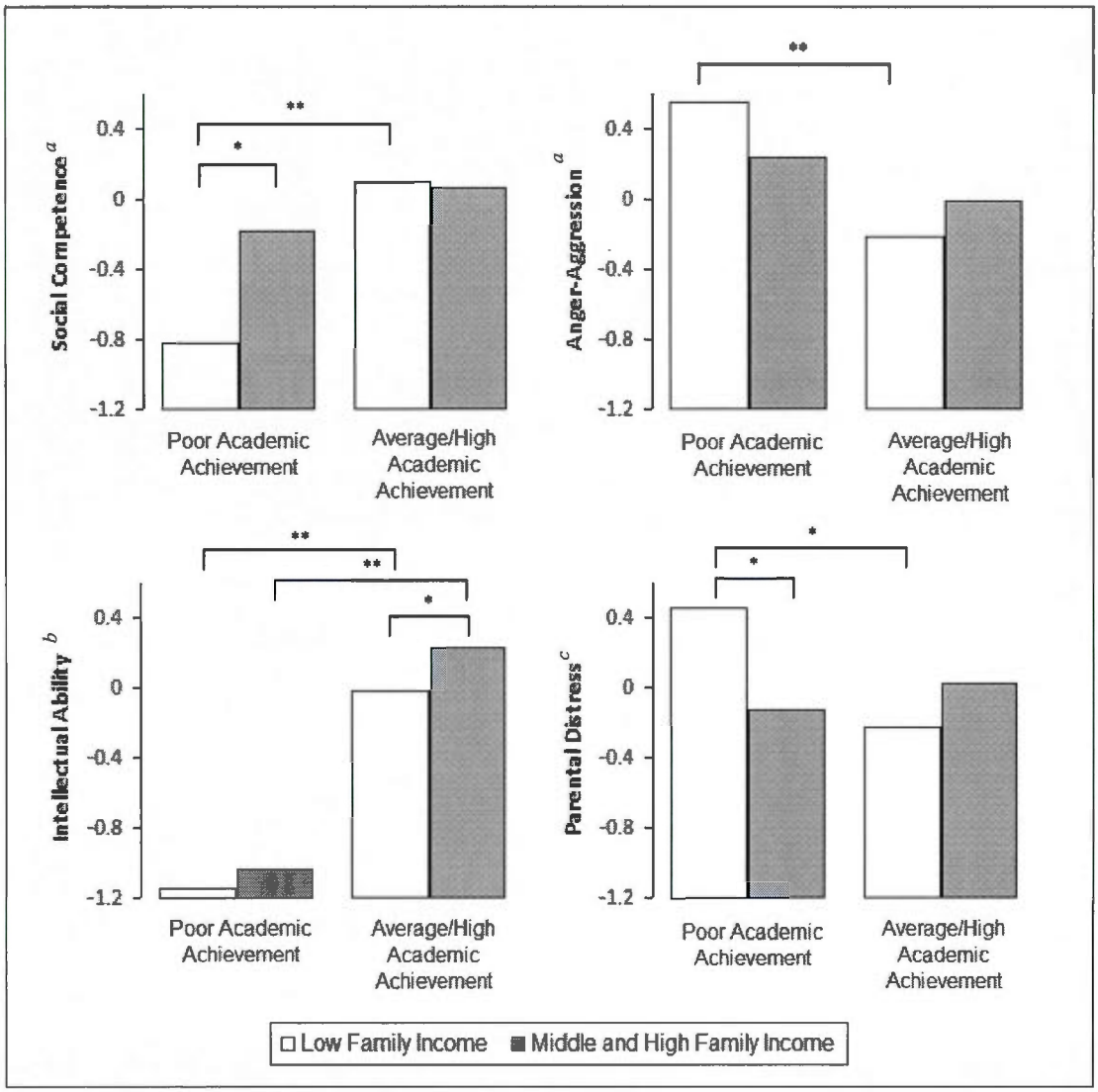

Figure 1. Means of the standardized scores of Social competence scale (SCBE-30), Anger-aggression scale (SCBE-30), intellectual ability (WPPSI-R), and Parental Distress subscale (PSI-SF) by level of academic achievement and family income.
$^{*}p < .05$ $^{**}p < .01$

CHAPITRE IV

FAMILY FUNCTIONING AND SOCIOAFFECTIVE COMPETENCIES OF CHILDREN IN THE BEGINNING OF SCHOOLING

(ARTICLE 3)

Family Functioning and Socioaffective Competencies of Children in the Beginning of Schooling

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Abstract

The aim of this short term longitudinal study, based on the system theory, was to test the relationship between different aspects of family functioning of preschoolers and their socioaffective competencies at the end of the first grade. The total sample included 278 children (137 boys and 141 girls) and their families. The analysis of variance results regarding the aspects of family cohesion and harmony showed that preschoolers from more cohesive families display more social skills, while those from more conflicting families display more externalizing behavior problems (aggression and irritability). With respect to the family's ability to resolve problems, it was observed that, especially for middle and upper class families, this aspect is associated with better social skills and fewer internalized behavior problems. Overall, results of the present study suggest that the family functioning at early stage might influence children's abilities to regulate their emotions and to establish/maintain important relationships with peers and teachers in their early school years.

Keywords: family functioning; socioaffective competences; behavior problems; early school adjustment.

Family Functioning and Socioaffective Competencies of Children in the Beginning of Schooling

The transition from preschool to elementary school is a period marked by many changes in a child's life. In addition to the differences in the classroom's physical environment, the objectives of learning become more specific, as well as the expectations regarding children's behavior. It is expected, for instance, that the student becomes more independent, respects the school's rules and routines and pays attention in class for longer periods of time and knows how to establish good relationships with peers and teachers. The adaptation of the child to this new context may be influenced by many factors, such as his/her cognitive and socioaffective competencies (Malaspina & Rimm-Kaufman, 2008). Though the lack of cognitive competencies may result in learning disabilities, the lack of socioaffective competencies also presents important consequences to the success of children's education, as it may affect their learning skills and the quality of their relationships at school (Ladd & Burgess, 1999; Miles & Stipek, 2006). For example, in a North American study of 250 elementary school students, researchers observed that children who presented with anti-social behaviors (e.g., threatening, playing alone, avoiding contact with other children, arguing) were less accepted by their peers and more likely to have a conflictual teacher/child relationship (Ladd & Burgess, 1999). According to Perrenoud (2002), the socioaffective and relational abilities are as important as the cognitive abilities in the process of school learning. Indeed, researchers have shown a significant association between the socioaffective

competencies and the school performance of children (Dobbs, Doctoroff, Fisher & Arnold, 2006; Graziano, Reavis, Keane & Calkins, 2007). In addition, children who have socioaffective abilities and good school scores at the beginning of their schooling have a greater chance of having success in school afterwards (Agostin & Bain, 1997; Burchinal, Roberts, Zeisel, Hennon & Jooper, 2006; Chen, Lee & Stevenson, 1996; Duncan et al., 2007; Malecki & Elliott, 2002; Ou & Reynolds, 2008).

Given the importance of socioaffective competencies at the beginning of schooling and their influence on children's future school performance, this article aims to contribute to the study of the factors involved in the development of these competencies. The notion of socioaffective competencies adopted in this article refers to children's capability of regulating their emotions and of behaving in order to establish and maintain satisfactory relationships with others (Dirks, Treat & Weersing, 2007; Raver & Zigler, 1997). The socioaffective competencies include the child's capability to communicate, to empathize, and to inhibit any of their own aggressive behaviors. The development of these competencies is influenced by a variety of factors that are present in the social contexts in which children live, such as at school and home (Hoglund & Leadbeater, 2004; National Institute of Child Health and Human Development [NICHD], Early Child Care Research Network [ECCRN], 2004). At the beginning of children's schooling, socioaffective competencies seem to be particularly influenced by the family context (Burchinal et al., 2006; NICHD ECCRN, 2003; Schickedanz, 1995). Family has an important role in the

socioaffective development of children because in addition to presenting genetic and environmental influences, it is the first social environment to provide them with affective experiences (Collins, Maccoby, Steinberg, Hetherington, & Bornstein, 2000). It is within their families where children begin to develop their self esteem and identity in addition to learning how to communicate, to relate to and interact with others and to control their emotions.

Many aspects of children's early experiences in their family environment have been reported as predictors of social competencies and behavior problems in school (Burchinal et al., 2006; Foster, Lambert, Abbott-Shim, McCarty, & Franze, 2005; King et al., 2005; Orme & Buehler, 2001). Among the family factors that are typically good predictors of children's development in school, are those variables associated with socio-economic level, such as family income and parental education (Bradley & Corwyn, 2002; McLoyd, 1998). Studies show that children who come from low-income families often have behavior and attention problems, as well as low self esteem (Gershoff, 2003; Raver, 2004). Families who have low incomes are more likely to have marital crises, demonstrate less sensitivity to their children's needs, and show an authoritarian parenting style (Bradley & Corwyn, 2002; Evans, 2004; Grant, Compas, Stuhlmacher, Thurm, McMahon & Halpert, 2003). This association between the socio-economic level and the socioaffective and behavioral competencies of children can be explained in part by the authoritarian and uninvolved parenting styles as well as by the low level of affective support of parents of economically disfavored families (Bradley & Corwyn, 2002; McLoyd, 1998; Pettit, Bates & Dodge, 1997). In

fact, the parenting style and affective support of parents, as well as parental practices and maternal sensitivity, have been found to be good predictors of the social competencies and behavior of children (Gadeyne, Ghesquière, & Onghena, 2004; Smith, Prinz, Dumas & Laughlin, 2001; NICHD ECCRN, 2004). For example, highly controlling parenting practices have been reported to be significantly related to the presence of more externalizing problematic behavior and attention problems in children in school (Gadeyne et al., 2004). Another North American study, by the National Institute of Child Health and Human Development (NICHD ECCRN, 2004), reported that those children who were considered as socially competent by teachers and presented with less behavior problems in the classroom, were those whose mothers believed that parental practices should be child-centered (favoring the development of autonomy) and those who had parents who were more sensitive to their children's needs and interests. In addition, researchers have shown that maternal sensitivity and the quality of mother-child interactions are related to children's socioaffective competencies and behavior problems in school (Clark & Ladd, 2000; Morrison, Rimm-Kauffman & Pianta, 2003).

Although certain behaviors and characteristics of parental practices have been associated with the quality of children's social adaptation at school, another line of research has focused on studying how the family unit may also contribute to the child's success. According to the systemic theory, the family unit is a system in constant transformation, that passes through changes that demand constant adaptations to ensure the unity of family and, at the same time, to promote the

distinction among the members (Andolfi, Angelo, Menghi & Nicolo, 1985; Minuchin, 1998). Family cohesion refers to this balance between the proximity and the detachment of family members. Good family cohesion implies, for instance, that the members are assertive in their communication, are explicit in the division of roles, have democratic leadership and flexible rules. In the family system, parents and their children are active and interconnected participants, influencing the system either directly or indirectly. Thus, disagreements and conflicts among two or more family members influence the psycho-social development of each individual, which may affect the socioaffective development of children. In fact, one of the few studies that verifies the association between family functioning and social/academic competencies in African American children indicates that the *cohesion* and the *communication* between family members are positively related to children's social competencies, as evaluated by parents; whereas the family *structure* – as well defined rules and responsibilities, and emotional support – is positively related to the social competencies and negatively related to behavior problems in children as evaluated by parents and teachers (Smith et al., 2001).

Another important factor to be considered in the study of the development of socioaffective competencies in children is the difference between the child's gender. Research indicates that girls demonstrate higher levels of social competency in the classroom than boys (Ladd & Burgess, 1999; LaFreniere & Dumas, 1996). The research also indicates that the incidence of aggressive behavior is more frequent in boys (Gardinal & Marturano, 2007; Hammarberg & Hagekull, 2006). Additionally,

boys seem to be more affected by unfavorable conditions of their environment than girls (Entwisle, Alexander & Olson, 2007; Ministère de l'Éducation, du Loisir et du Sport, 2005). These results demonstrate the importance of considering the student's sex when studying the existing association between family functioning and the socioaffective adaptation of the child at school.

In sum, the studies previously described suggest that the family system has a crucial role in the socioaffective development of children, taking into consideration that it represents the first socialization and learning context in which children learn to regulate their emotions, to develop social roles and to respect rules and responsibilities. Within the framework on the family systems theory, this article aims to improve our understanding of how family functioning may influence children's socioaffective development, beyond the limited focus of parenting practices. The objective is to investigate the association between family functioning data collected in the preschool period and the socioaffective competencies of children at the end of first grade, in a determinant development period that is the transition from preschool to elementary school. The presence of interrelations between children's gender and the socio-economic level will be equally investigated. Considering the importance of early identification of children who may show adaptation problems in the first schooling years, the results of this research may serve as a guide for intervention that aims to promote the development of socioaffective competencies of preschool children.

Method

Participants

Two hundred and seventy eight francophone children (137 boys and 141 girls) and their families were recruited in the Estrie region, in the province of Québec, Canada, to participate in the study. The exclusion criterion was the presence of any intellectual, physical or sensorial disability. In the first step of the data collection, the children had an average age of 5 years and 6 months old and were at the beginning of kindergarten. The participants were evaluated a second time by their teachers (79 teachers at 49 schools), at the end of the first year of elementary school, when they were on average 7 years old. Most children lived with both parents (90%) and the average age was 32 years old for the mothers and 35 years old for the fathers. Around one third of the families had an annual income considered modest (less than 30 thousand Canadian dollars), the other third represented the middle class (with an annual income between 30 thousands and 50 thousand Canadian dollars), and the last third had high incomes (more than 50 thousand Canadian dollars). Regarding the parental level of education, 60% of mothers and 70% of fathers had education levels equal or inferior to high school (usually acquired at 16/17 years old), 25% of mothers and 15% of fathers had a college degree (usually acquired in their 18/19 years old), and 15% of mothers and fathers had a Undergraduate Diploma.

Instruments of Data Collection

The children's socioaffective competencies were evaluated in grade 1 by their teachers using the Social Competence and Behavior Evaluation Scale (SCBE;

LaFreniere, Dumas, Capuano & Dubeau, 1992). This standardized questionnaire allows the teacher to evaluate children's social competencies and behavior problems. It is composed of 80 items reporting different kinds of children's behavior that can be observed by teachers, whose responses are shown in a Likert scale ranging from 1 (never observed) to 6 (always observed). The instrument provides three main scales: 1) *social competency,* calculated from the average of answers for the items related to the 8 positive poles (joyful, secure, tolerant, integrated, calm, pro-social, cooperative, autonomous); 2) *internal behavior problems,* calculated from the items related to the 4 negative poles (depressed, anxious, isolated and dependent); and 3) *external behavior problems,* calculated from the items related to the other 4 negative poles (angry, aggressive, oppositional and egotistical). The analyses of SCBE scales variation show a good internal consistency (.79 to .81), a good inter-judges fidelity (.72 to .89) and an elevated temporal stability (.74 to .87) (LaFreniere, Dumas, Capuano & Dubeau, 1992).

The social demographic characteristics of families were collected through a general information questionnaire, completed by the parents. The family functioning was also reported by parents at kindergarten, through the Self-Report Family Inventory (SFI; Beavers & Hampson, 1990). The SFI is a 36-item questionnaire in which the respondent must indicate the correspondence level with his/her family reality, based on a 5-point Likert scale (1 = *fits our household very well* to 5 = *doesn't fit our household at all*). Originally, this instrument was comprised of five scales: health/competence, conflict, cohesion, expressiveness and leadership. However, when

doing preliminary analysis with data from samples of this study, it was observed that the scales suggested by the authors did not achieve an acceptable internal consistency level (Cronbach's α). As a consequence, our team of researchers trained in systemic theory regrouped the questions from the inventory in order to address the main aspects of the family functioning supported by the literature. This procedure allowed the development of four new scales and the reliability showed a good internal consistency, with Cronbach's alpha coefficients between .70 and .78. The new scales are: 1) *cohesion*: refers to the balance between family unity and differentiation among its members (sample questions: "Family members pay attention to each other and listen to what is said"; "Our family members would rather do things with other people than together"; 2) *affective support*: the presence of a space in which the members share their emotions and experiences and seek comfort and safety (sample question: "Family members easily express warmth and caring towards each other"); 3) *problem solving*: family's ability to identify problems and implement effective strategies (sample question: "Our family solves problems together"); 4) *harmony*: quality of relationships among the family members, ranging from conflicting to harmonious (sample question: "Adults in the family compete and fight with each other").

Procedures and Data Analysis

After being informed about the research and signing the permission form, the parents completed the questionnaire regarding their socio-demographic information and the Self-Report Family Inventory (SFI) about the family functioning. In the second part of the research, approximately one and a half years later, the teachers

were asked to evaluate the socioaffective competencies of the participating children by means of the SCBE.

The data collected was analyzed using the software SPSS (SPSS Inc., 2008) and preliminary analyses were conducted to test whether the necessary assumptions were met to allow for conducting analyses of variance (normality of distributions, linearity and homoscedasticity). The distribution of each one of the SFI scales regarding family functioning was classified into three levels (low, medium, high). The division level adopted was based on the number of families, in order to have approximately the same amount (33%) in each one of the three levels. In each of the four scales, one third of the families were classified in the group that showed a high level of, for example, family cohesion; one third of the families were classified at the medium level, and the last third were classified in the low level group. After the creation of these groups for each scale, analyses of variance were performed. Children's social competencies and behavior problems (internal and external) were used as dependent variables, and the family's functioning, children's gender and the family income were used as independent variables (factors). Given the collinearity between the variables related to socio-economic level (parental level of education and family income), the parental level of education was not considered in the analyses. Contrast analyses (comparison of averages) were also performed when the factors showed significant main and interaction effects, in order to identify which groups differed significantly.

Results

The results of the analyses of variance performed for each one of the family functioning scales will be shown hereinafter. First, it was examined whether the influence of family *cohesion* is related to the socioaffective competencies of the children, and whether this varied according to the family income and the child's gender (interaction effects). The results indicate a modest, yet significant, main effect of family cohesion factor (as evaluated by the parents in the preschool period) on the social competencies of children (as evaluated by the teacher in the end of first grade) ($F(1, 260) = 7.43, p < .01$). The contrast analysis showed that the group of children from families with low cohesion level had significantly less social competencies than the children from families with medium or high level of family cohesion (see Figure 1). The analyses of variance with behavior problems (internal and external) as dependant variables did not show significant main effects. Additionally, no interaction effects were found among cohesion, child's gender and family income factors. However, the results indicated that the child's gender shows a significant main effect on children's social competencies and external behavior problems. As expected, girls showed more social competencies ($F(1, 260) = 5.69, p < .01$) and less external behavior problems ($F(1, 260) = 12.44, p < .01$) than boys. With respect to family income, a significant linear effect on two SCBE scales was observed: as family income increases, children's social competencies rise ($F(1, 260) = 5.36, p < .01$) and internalized behavior problems decrease ($F(1, 260) = 4.62, p < .05$).

The results achieved in the analyses of variance with the *problem solving* factor showed a significant main effect only on children's social competencies ($F(1, 260) = 3.28, p < .05$). According to the contrast analyses, the effect is not linear, only being significant in the difference between the groups of children with medium and high levels of the problem solving scale. Thus, children of the group of families with higher problem solving levels (according to the parent's evaluation) show better social competencies (as evaluated by the teacher). The results showed a modest interaction of the scale with family income, which indicates that income has an influence on the relation between the problem solving scale and the social competencies ($F(1, 260) = 2.42, p < .05$), and the internal behavior problems ($F(1, 260) = 2.91, p < .05$). According to the contrast analyses, children from families with a better problem solving level had better social competencies and less internal behavior problems, but only those in the medium and high family income levels. Therefore, the problem solving scale does not show a significant effect on the socioaffective competencies of children with low family income.

When compared to the other family functioning scales, the *harmony* factor is the only one that shows a significant main effect on the external behavior problems ($F(1, 260) = 3.27, p < .05$). The results of the contrast analysis indicated that the group of children with higher harmony level (i.e., with less conflicting family relationships in the preschool period) showed less external behavior problems in first grade than children from families with a medium or low family harmony level (see Figure 2). No effect of significant interaction was found among harmony scale,

child's gender and family income. Additionally, the analyses of variance that had as a factor the *affective support* scale, did not indicate any significant main or interaction effect on children's social competencies or behavior problems (internal or external).

Discussion

Considering the importance of children's social competencies in children's adaptation and performance in school, this research aimed to contribute to the study of family factors related to the development of these competencies, taking into account personal and contextual variables such as socio-economic level and child's gender. Family is the social context in which the children learn, in their first years of life, to establish relationships and to regulate their emotions. According to the systemic theory, family members are active and interconnected participants, mutually influencing each other. Thus, certain characteristics of family functioning, such as cohesion, presence of conflicts and the ability to solve problems, as yet not fully explored, would likely influence the socioaffective development of children at the beginning of their schooling. The present study aimed to examine the longitudinal associations between family functioning in the preschool period and children's socioaffective competencies at the end of grade 1.

In general, the results indicated that some aspects of the family functioning reported by parents in the preschool period were related to the children's socioaffective competencies in school, as evaluated by teachers. According to the results, children from families with more conflicting relationships showed more external behavior problems (aggression and irritability) in school. Similar to the study

done by Smith et al. (2001), cohesion was positively related to children's social competencies. However, this study contributes new evidences on the extent of this association, as the data were collected with a time interval of a year and a half. In addition, the data were collected through questionnaires filled out by independent respondents (parents for the questionnaire of family functioning and teachers for the children's competencies evaluation), thus confirming the importance of the relationships between the variables studied. As observed by Smith et al., the associations among the variables collected from different respondents were usually weaker (or even insignificant) than when reported by a single respondent. This is probably the reason why the results of the present study are relatively modest and the analyses between affective support scale and children's competencies were not significant, contrary to other studies (Gadeyne et al., 2004; Smith et al., 2001).

In accordance with previous research (Gardinal & Marturano, 2007; Hammarberg & Hagekull, 2006; LaFreniere & Dumas, 1996), our results indicate that girls present more social competencies and less externalizing behavior problems than boys. Nevertheless, the hypothesis that family background would exert a greater influence on boys' socioaffective competencies was not confirmed, since any interaction effect between child's gender and family functioning was significant. Regarding the influence of the socio-economic status, the results found in this study were similar to those observed in previous research (NICHD ECCRN, 2005; Bradley & Corwyn, 2002), showing a significant main effect, i.e., as family income increases, children's social competencies rise and behavior problems decrease. On the other

hand, a significant interaction effect between family income and problem solving was also observed, indicating that a better problem solving level is related to social competencies and to internal behavior problems, but only in the families with medium and high average income. This result might be explained by the fact that low income families, as they face more adversities, have more difficulties in efficiently solving their problems such as to significantly influence children's social competencies. However, analyses of variance showed that the scales of family functioning did not significantly differ between the levels of family income. Thus, it is possible that other aspects of the family context not measured by the solving problems scale, could be of more importance to the development of social competencies of the children in the low income population, such as the level of cohesion and conflict within the family (as observed in this study), the parental stress (Anthony et al., 2005), the maternal sensitivity (NICHD ECCRN, 2005) and the parental practices (Yeung, Linver, & Brooks-Gunn, 2002).

In summary, our findings are consistent with results from other studies examining the associations between family functioning and children's socioaffective competencies at the beginning of their schooling, a determinant period of children's development. It has also contributed to the investigation of family functioning dimensions that have not yet been widely researched, such as problem solving, cohesion and level of family conflicts. Another important contribution of this research was the study of the association between these family functioning dimensions and children's socioaffective competencies in a longitudinal approach.

The fact that we observed significant relationships between two variables collected in distinct moments from different respondents, confirms the importance of the family context in children's socioaffective development.

Among the methodological limitations of our study, one major point is the psychometric properties of the Self-related Family Inventory (SFI; Beavers & Hampson, 1990). Due to the low internal consistency level of original scales, the questions of the inventory were regrouped and four new scales were created (*cohesion, affective support, problem solving* and *harmony*). Despite the fact that these new scales showed a good internal consistency, it is possible that the associations between the variables may not have been strong because of the lack of sensitivity of the instrument to the different aspects of family functioning. On the other hand, the data collection through questionnaires can produce responses influenced by social desirability. An alternative approach to address these limitations in the future would be using a multi-method approach that combines the use of a questionnaire and an interview or a direct observation, increasing the inference level and the possibility of identifying other important dimensions of family functioning. Another suggestion for future research would be the investigation of family functioning aspects that may act as protection factors in order to develop social competencies in children from a low socio-economic status. Thus, further studies on family functioning are necessary for a better understanding of the aspects involved in the development of socioaffective competencies, contributing to the development of

family intervention programs which aim at the promotion of children's development at the beginning of schooling.

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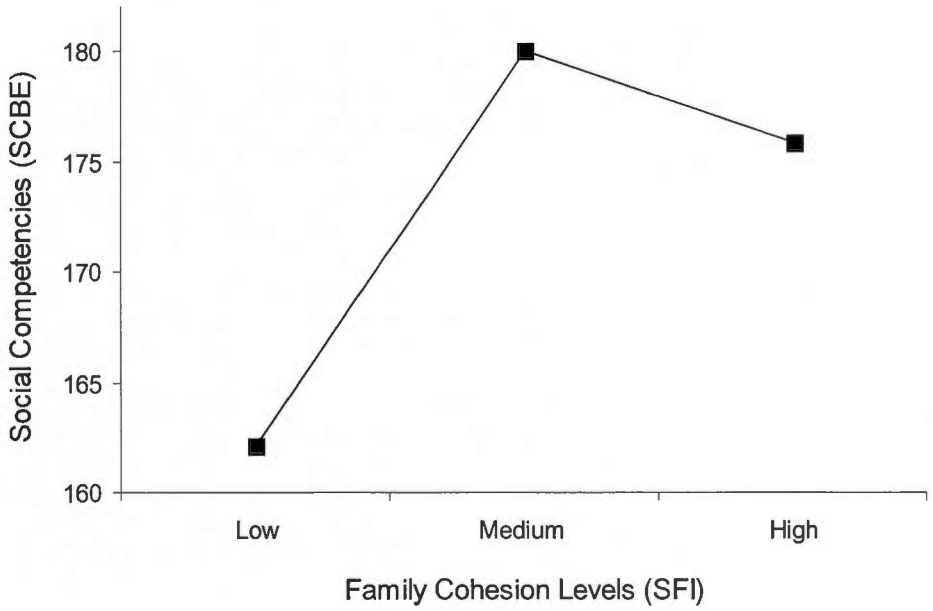

Figure 1. Means of children's social competencies (assessed by SCBE) as related to family cohesion levels (assessed by SFI).

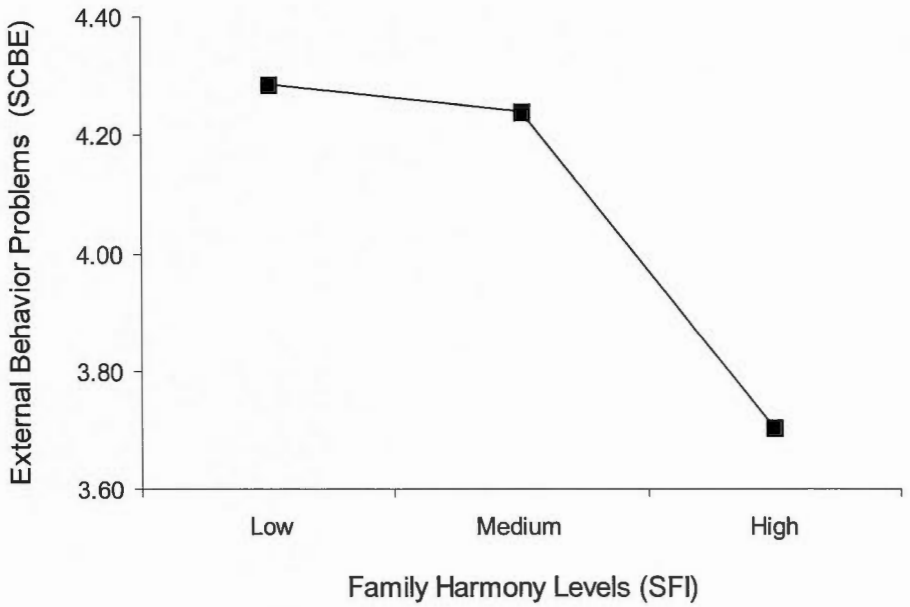

Figure 2. Means of children's external behavior problems (assessed by SCBE) as related to family harmony levels (assessed by SFI).

CHAPITRE V

DISCUSSION GÉNÉRALE

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Le présent chapitre propose une discussion générale sur les principaux résultats obtenus dans les trois articles de la thèse. Trois parties distinctes composent ce chapitre. La première offre une synthèse et une interprétation des résultats obtenus à propos de la validité des mesures de réussite scolaire au début de l'école primaire, des caractéristiques personnelles et parentales des enfants résilients sur le plan scolaire, et du lien entre le fonctionnement familial et les compétences socio-affectives des jeunes écoliers. La deuxième partie traite des implications théoriques et cliniques des résultats de notre étude. Finalement, la dernière partie porte sur certaines considérations méthodologiques. Elle souligne les forces et les limites de cette thèse et trace des avenues pour les recherches futures.

5.1. Synthèse et discussion des résultats présentés dans les trois articles

Bien que la réussite scolaire soit un construit fréquemment mesuré, la validité des méthodes d'évaluation employées est souvent remise en question par les chercheurs, surtout lorsque ces évaluations entraînent des conséquences importantes pour les élèves et les écoles, comme la mise en place d'interventions préventives auprès d'enfants identifiés comme étant à risque, ou l'évaluation des programmes et services éducatifs. Considérant l'importance d'avoir une mesure valide et sensible aux habiletés scolaires des jeunes enfants, le premier objectif de cette thèse était d'examiner les qualités psychométriques de deux mesures provenant des différentes méthodes d'évaluation, soit l'échelle d'appréciation remplie par l'enseignant (EE), et les tests de rendement scolaires standardisés en français et en mathématiques (TFM). Plus précisément, notre but était de vérifier la validité de critère de ces deux mesures,

ainsi que la présence de possibles biais liés aux caractéristiques des élèves, des familles et des enseignants, telles que le profil socio-affectif des élèves, le statut socioéconomique de la famille et les années d'expérience de l'enseignant.

Les résultats présentés dans le deuxième chapitre, concernant la validité de critère de l'EE et des TFM, suggèrent que le statut socioéconomique des enfants et leur préparation scolaire à la maternelle – variables considérées comme des prédicteurs robustes de la réussite scolaire (Chew et Morris, 1989; Sirin 2005; Venet *et al.*, 2003; Pagani *et al.*, 2010) – sont associés aux deux mesures de réussite (EE et TFM) en première année d'école primaire. Notons que ces variables expliquent significativement plus la variance de l'EE que celle des TFM. Des analyses supplémentaires ont permis d'observer des liens entre les caractéristiques des élèves et les deux mesures étudiées (EE et TFM), tel que proposé par le modèle de la validité du jugement de l'enseignant de Südkamp *et al.* (2012). Pour ce qui est de l'EE, les résultats indiquent que les enfants perçus par leurs enseignants – à la maternelle et au primaire – comme ayant plus de compétences sociales, étaient plus susceptibles de présenter un meilleur rendement scolaire à la fin de leur première année de primaire. À l'opposé, les élèves présentant des comportements agressifs et oppositionnels avaient tendance à recevoir un score inférieur à l'EE. Ces résultats conduisent à des interprétations différentes. D'une part, ils peuvent révéler un possible biais de l'enseignant en faveur des élèves plus coopératifs et sociables (par un effet de halo menant les deux évaluations dans la même direction). D'autre part, ils peuvent indiquer que les enfants ayant des déficits de régulation du comportement sont plus susceptibles d'avoir des difficultés cognitives (par exemple, la mémoire de travail, l'attention et la planification) affectant leur capacité d'apprendre et d'exceller à l'école (Graziano *et al*, 2007; Malecki et Elliott, 2002; Monette *et al.*, 2011). Dans cette même perspective, il est probable que les jeunes enfants ayant de bonnes compétences sociales aient plus d'habiletés d'adaptation et réussissent mieux à établir des relations saines avec les enseignants et leurs pairs, ce qui favoriserait leur

engagement à l'école et leur capacité d'apprentissage (Graziano *et al.*, 2007; Roorda *et al.*, 2011). À ce sujet, quelques études ont démontré que les interactions positives entre les enfants et les enseignants – notamment une relation chaleureuse et une communication ouverte – peuvent favoriser la réussite scolaire concomitante et ultérieure (O'Connor et McCartney, 2007; Pianta et Stuhlman, 2004; Valiente *et al.*, 2008; Roorda *et al.*, 2011).

Pour ce qui est des TFM, les résultats montrent que les élèves ayant moins de comportements d'anxiété ont des scores de rendement scolaire plus élevés. Ce résultat peut conduire à l'hypothèse selon laquelle les élèves plus anxieux seraient plus susceptibles d'éprouver des difficultés à s'adapter à la situation de test (Bagnato, 2005; Pellegrini, 2001). Il se peut également que les jeunes élèves présentant de l'anxiété soient moins disposés à apprendre et moins aptes à utiliser leurs fonctions cognitives supérieures, ce qui aurait une incidence négative sur leur rendement scolaire (Grover *et al.*, 2007; Normandeau et Guay, 1998; Seipp, 1991) et même augmenter leur risque de décrochage à l'école secondaire (Duchesne *et al.*, 2008). Finalement, nos données indiquent que les variables liées au statut socio-économique de la famille et au niveau d'expérience de l'enseignant ne sont pas associées de façon particulière à aucune des deux mesures étudiées (EE et TFM).

Les résultats de ce premier article nous éclairent dans le choix de l'instrument à utiliser dans l'évaluation du rendement scolaire des jeunes écoliers. Le fait que le jugement de l'enseignant sur le rendement des écoliers puisse être sensible au profil socio-affectif de ces derniers, comme suggéré par nos résultats, ne constitue pas nécessairement une faiblesse de l'instrument de mesure. En effet, les caractéristiques interpersonnelles, comme les compétences sociales, sont considérées comme de bons prédicteurs de la réussite scolaire concomitante et future (Graziano *et al.*, 2007; Dobbs *et al.*, 2006; Malecki et Elliott, 2002), ainsi que de la qualité de la relation enseignant-élève (Baker, 2006; Pianta et Stuhlman, 2004). Dans le cadre du deuxième

article de cette thèse, qui porte sur la réussite scolaire des élèves défavorisés au début du primaire, nous avons adopté la mesure EE du fait de son lien plus important avec les critères externes recueillis à la maternelle.

Il est démontré que les enfants issus de milieux pauvres sont généralement moins préparés à l'école que leurs pairs plus aisés, ce qui peut compromettre leur avenir dans plusieurs domaines (Brooks-Gunn et Duncan, 1997; Masten et Tellegen, 2012). Bien que le lien entre le faible statut socio-économique et l'échec scolaire soit relativement fort ($r_{\text{moyen}} = .30$; Sirin, 2005), des données provenant de différentes recherches indiquent que certains facteurs personnels et parentaux pourraient contrer les risques liés à la pauvreté et favoriser le développement des enfants (Werner, 2013). Ces facteurs comprennent, entre autres, les habiletés intellectuelles et socio-affectives des enfants (Condly, 2006; Masten *et al.*, 1999), ainsi que le faible niveau de stress parental (Crnic et Low, 2002). Même si des études longitudinales antérieures ont démontré l'importance de ces attributs dans l'adaptation des enfants à différentes étapes de leur vie (Werner, 2013), peu d'entre elles ont été menées auprès d'enfants d'âge préscolaire ou se sont intéressées au processus spécifique de la résilience scolaire dans un contexte de pauvreté. Ainsi, le deuxième objectif de cette thèse était de vérifier si les compétences intellectuelles et socio-affectives des enfants d'âge préscolaire, ainsi que le faible niveau de stress parental, pouvaient caractériser les enfants résilients sur le plan scolaire. Dans le cadre de cette étude, le concept de résilience scolaire a été opérationnalisé comme ayant un rendement scolaire de moyen à élevé en première année du primaire (notre critère de compétence), en dépit d'un faible statut socio-économique de la famille. La comparaison avec des élèves plus aisés avait pour but de vérifier si la présence de certains attributs chez les enfants bien adaptés à l'école pouvait varier en fonction de l'exposition au risque, comme la pauvreté. D'autre part, la comparaison permettait de voir si ces attributs étaient de niveaux comparables chez les enfants résilients et ceux n'étant pas exposés à la pauvreté.

En ce qui concerne les caractéristiques socio-affectives, nos résultats indiquent que les enfants résilients sur le plan scolaire présentent plus de compétences sociales et moins de comportements agressifs à la maternelle que leurs pairs mal adaptés (ceux exposés au risque et qui n'ont pas réussi à l'école). À la différence des études précédentes qui démontrent que les compétences sociales et la régulation émotionnelle sont associées à un meilleur rendement scolaire, indépendamment de l'exposition à certains risques (Caprara *et al.*, 2000; Malecki et Elliot, 2002; Welsh *et al.*, 2001), nos résultats suggèrent que certaines caractéristiques socio-affectives sont associées à la réussite scolaire seulement pour les enfants à risque. En effet, certains traits personnels semblent avoir des effets différents en présence du risque; ce qui concorde avec l'idée que l'adaptation de l'enfant peut découler de circonstances ou d'aspects considérés comme neutres en l'absence de risque (Rutter, 2012). D'après nos données, le fait d'avoir plus de compétences sociales et moins de comportements agressifs à la maternelle contribue spécifiquement au processus de résilience scolaire en début de primaire. Nous arrivons à cette conclusion du fait que ces caractéristiques socio-affectives ne sont pas significativement différentes chez les enfants de milieux aisés qui ont réussi à l'école et chez les enfants de milieux aisés qui n'ont pas réussi. Nos résultats suggèrent pareillement que le faible niveau de stress parental favorise la réussite scolaire uniquement chez les élèves à risque. Les parents des enfants résilients ont rapporté un niveau de stress, à la sous-échelle « détresse parentale », inférieur à celui rapporté par les parents des enfants mal adaptés. On peut alors supposer que ces attributs – des enfants et des parents – agissent comme de possibles facteurs de protection de la réussite scolaire, uniquement dans le cas d'enfants défavorisés.

Nous formulons ainsi l'hypothèse selon laquelle un enfant à risque qui possède, avant d'entrer à l'école, de bonnes capacités cognitives, de bonnes compétences sociales, peu de problèmes comportementaux, et dont les parents subissent un faible niveau de stress parental, serait plus outillé et capable d'aller chercher de l'aide extérieure et

d'inciter des réponses positives de la part de ceux qui l'entourent. De plus, il serait plus confiant et disponible aux situations d'apprentissage en classe. Dans un contexte de pauvreté, la capacité spécifique des parents à gérer leur stress parental vis-à-vis d'un enfant d'âge préscolaire, en interaction avec les caractéristiques individuelles de cet enfant, comme ses compétences sociales, auraient une influence importante sur la réussite scolaire de l'enfant. Malgré des conditions socio-économiques défavorables, ces facteurs assurent probablement un environnement familial structuré, stable, chaleureux, et propice à des relations parent-enfant saines. Ils pourraient ainsi compenser les effets des circonstances adverses et offrir le soutien et la guidance nécessaires à une transition réussie vers l'école.

Nos résultats suggèrent également que les enfants performants en première année du primaire avaient un QI plus élevé à la maternelle, indépendamment du statut socio-économique de la famille. D'autres études auprès d'élèves à partir de la troisième année du primaire démontrent également qu'un bon fonctionnement intellectuel aide les enfants à s'adapter et à réussir à l'école, quel que soit leur milieu socioéconomique (Condly, 2006; Masten *et al.*, 1999). En effet, un bon fonctionnement intellectuel va en général de pair avec des mécanismes d'adaptation fondamentaux qui suffisent à soutenir un développement normal, même dans des conditions défavorables. Plus les enfants sont intelligents, plus ils démontrent de bonnes capacités de résolution de problèmes, d'autorégulation et de mémoire, quel que soit le contexte socioéconomique dans lequel ils évoluent (Masten et Coatsworth, 1998). Le bon fonctionnement intellectuel est susceptible de les aider à tirer profit de diverses situations d'apprentissage et de favoriser leur estime d'eux-mêmes et leur engagement à l'école.

En somme, les résultats du deuxième article suggèrent que lorsque les enfants à risque ont, à la maternelle, de bonnes compétences sociales, moins de comportements agressifs, et des parents vivant un faible niveau de stress parental, ils sont plus en

mesure de surmonter l'adversité et de réussir, à la fin de leur première année du primaire, aussi bien que les enfants provenant de milieux aisés. Étant donné l'importance des compétences socio-affectives dans l'adaptation et la réussite scolaire des enfants issus de milieux défavorisés, il convient donc d'examiner les facteurs possiblement impliqués dans le développement de ces compétences. Au-delà du statut socio-économique des parents, certains facteurs liés au contexte familial, comme les pratiques parentales (Burchinal *et al.*, 2006; Gadeyne *et al.*, 2004), le stress parental (Anthony *et al.*, 2005), la santé mentale de la mère ainsi que la sensibilité maternelle (NICHD ECCRN, 2003, 2004), semblent avoir des liens étroits avec les comportements et les compétences sociales des enfants, particulièrement au début de leur scolarisation. À ce sujet, l'étude longitudinale de Morrison *et al.* (2003) a observé que la qualité des interactions mère-enfant avant l'entrée à l'école pourrait prédire les comportements des enfants à l'école primaire et secondaire, notamment chez les minorités ethniques. Cependant, très peu d'études se sont intéressées au lien entre le comportement des enfants et certains aspects de la famille dans son ensemble, c'est-à-dire en tant que système. Pour aller au-delà de l'analyse centrée sur les pratiques parentales, le troisième article de cette thèse étudiait, selon une approche systémique, l'association entre les différents aspects du fonctionnement familial relatif à l'enfant à l'âge préscolaire – à savoir, la cohésion, l'harmonie, le soutien affectif, la capacité à résoudre des problèmes – et le profil socio-affectif de cet enfant à la première année au primaire.

Les résultats du dernier article indiquent que les enfants issus de familles plus cohésives (dans lesquelles il y a une bonne proximité émotionnelle entre les membres) présentent plus de compétences sociales, tandis que les enfants provenant de familles moins harmonieuses (avec des relations plus conflictuelles) sont plus susceptibles d'avoir des problèmes de comportement d'agressivité et d'irritabilité à l'école. Les données suggèrent également que les familles ayant une meilleure capacité de résolution de problèmes ont des enfants plus compétents socialement et

manifestant moins d'anxiété. Cependant, ces associations s'avèrent significatives seulement pour les familles plus aisées (revenu moyen à élevé). Bien que ces résultats ne permettent pas d'inférer une relation de causalité, on peut supposer que la qualité du fonctionnement familial des enfants au préscolaire a des effets sur leur développement socio-affectif et, par conséquent, sur leur capacité à bien s'adapter à l'école.

Ces résultats, conjugués aux données obtenues dans le deuxième article de cette thèse, nous conduisent à différentes hypothèses sur les relations entre les variables étudiées. Il est possible, par exemple, que chez certaines familles à faibles revenus le niveau de stress parental élevé ait des effets négatifs sur la qualité du fonctionnement familial, qui, à son tour, contribue à l'émergence de problèmes de comportement et de difficultés d'adaptation scolaire chez les enfants. Les conflits familiaux fréquents créent probablement une ambiance tendue et peu favorable au développement de l'enfant. De plus, il se peut qu'à travers l'assimilation et l'intériorisation de modèles parentaux inefficaces sur le plan de la résolution de conflits et de la régulation des émotions, l'enfant soit plus susceptible d'avoir des difficultés d'autorégulation et des problèmes de comportement dans le contexte scolaire. À l'inverse, on peut supposer que les familles ayant une plus grande cohésion, moins de conflits entre leurs membres, et qui arrivent mieux à gérer leur stress et leurs responsabilités, sont plus en mesure d'offrir un milieu de vie propice au développement des habiletés essentielles au processus d'apprentissage des enfants (comme les habiletés socio-affectives, cognitives et d'autorégulation). Un milieu familial plus cohésif et harmonieux va probablement mieux répondre aux besoins de l'enfant. Il va consolider son sentiment de sécurité et d'autonomie, et lui permettre de mieux gérer les imprévus, en cherchant de l'aide si nécessaire. Les relations sécurisantes et chaleureuses entre les membres d'une famille pourraient ainsi contrer les risques inhérents aux milieux familiaux défavorisés et soutenir les enfants en début de scolarisation.

Tout bien considéré, les analyses de cette thèse ont permis, premièrement, d'approfondir les connaissances sur les qualités psychométriques de deux mesures de la réussite scolaire provenant des méthodes d'évaluation largement utilisées dans le domaine de la recherche en éducation. Deuxièmement, à l'aide d'une mesure valide et sensible aux habiletés scolaires des jeunes enfants, les données de notre deuxième article ont contribué à l'identification de certains attributs personnels et parentaux particuliers aux élèves résilients, comme les compétences sociales et le faible niveau de stress parental. Finalement, considérant l'importance des compétences socio-affectives dans la réussite scolaire, nos analyses ont mis en lumière les possibles liens entre ces compétences et différents aspects du fonctionnement familial. Dans la prochaine section, nous allons présenter plus en détail les principales implications théoriques et cliniques de nos résultats.

5.2. Implications théoriques et cliniques

Considérons à présent les contributions et les retombées de cette thèse, tant sur le plan de la recherche que sur le plan clinique. Sur le plan théorique et méthodologique, notre premier article a fait appel à des facteurs – liés à l'élève et à l'enseignant – rarement considérés dans les précédentes études sur la validité des mesures de réussite scolaire (Südkamp *et al.*, 2012). Les résultats apportent ainsi des informations supplémentaires, comme par exemple le fait que les compétences sociales mesurées à la maternelle sont particulièrement liées à la réussite scolaire du primaire, selon l'EE, tandis que les comportements d'anxiété sont négativement liés à la réussite, selon les TFM. De plus, contrairement à la plupart des études précédentes sur la validité de critère des mesures de réussite scolaire, nous n'avons pas utilisé des critères externes concomitants ou postérieurs aux mesures étudiées, mais plutôt antérieurs à celles-ci, ce qui ajoute des données complémentaires sur la validité de la

réussite scolaire au début du primaire. Sur le plan clinique, les résultats du premier article peuvent aider les chercheurs et les professionnels à faire des choix plus éclairés en ce qui concerne les instruments d'évaluation des habiletés scolaires des jeunes enfants, tout en considérant les possibles biais de chaque instrument. Par exemple, autant dans le domaine de la recherche que dans un contexte clinique, les brèves échelles d'appréciation remplies par les enseignants se présentent comme une option fiable et moins coûteuse, en temps et en moyens, pour mesurer le rendement des enfants. Néanmoins, l'inclusion des sources d'informations complémentaires pourrait augmenter la validité de l'évaluation. Il importe en effet de tenir compte de nos résultats et de quelques études antérieures qui suggèrent que le jugement de l'enseignant sur la réussite des enfants peut être influencé par le comportement de ces derniers et ainsi jouer en défaveur des élèves plus turbulents. Lorsqu'une évaluation plus détaillée des habiletés scolaires s'avère nécessaire, le protocole d'évaluation doit inclure des instruments qui permettent d'avoir un portrait plus spécifique des différentes dimensions impliquées dans le processus d'apprentissage.

Cette thèse contribue également au corpus de recherche qui essaye de comprendre pourquoi un certain nombre d'enfants réussissent à l'école en dépit des conditions adverses auxquelles ils sont exposés, comme la pauvreté. Malgré le fait que la réussite scolaire des enfants défavorisés soit un des principaux défis éducatifs dans bien des pays développés, jusqu'à présent, peu d'études se sont consacrées à la résilience scolaire auprès d'enfants d'âge préscolaire dans un contexte de pauvreté (Werner, 2013). Cette situation est surprenante, étant donné que beaucoup d'efforts de prévention de l'échec scolaire dans les milieux socio-économiquement désavantagés visent particulièrement l'âge préscolaire. Le manque de connaissances sur les mécanismes conduisant à la résilience scolaire dès le début de la scolarisation pourrait expliquer en partie le succès limité des nombreuses formes d'intervention (Ceci et Papierno, 2005; Reardon, 2011). Le deuxième article de cette thèse apporte de nouvelles connaissances sur les caractéristiques personnelles et familiales

possiblement impliquées dans le processus de résilience scolaire chez les jeunes enfants. Les résultats indiquent que les enfants seraient plus en mesure de surmonter les risques liés à la pauvreté et de réussir au début du primaire lorsqu'ils possèdent un bon niveau de compétences sociales et un faible niveau de comportements agressifs et de stress parental, avant l'entrée scolaire. Il convient de noter que les attributs parentaux et personnels des enfants compétents sur le plan scolaire sont de niveaux comparables chez les enfants à risque et chez ceux qui ne sont pas exposés au risque. Cela appuie l'idée selon laquelle la résilience implique des ressources et des mécanismes adaptatifs ordinaires plutôt qu'exceptionnels (Masten, 2001). Dans cette optique, on pourrait croire que le phénomène de la résilience scolaire a plus de chances d'advenir lorsque les parents arrivent à bien gérer le stress parental et lorsque les enfants parviennent à développer des compétences socio-affectives satisfaisantes, puisque, dans ces circonstances, les enfants bénéficieraient des mécanismes adaptatifs nécessaires pour contrer les menaces nuisant à leur adaptation scolaire. Ce point de vue s'avère beaucoup plus encourageant pour l'intervention que les croyances qui soutiennent que seules des qualités exceptionnelles peuvent aider les enfants à surmonter les risques liés à la pauvreté.

Notre recherche a permis de cerner, en partie, le profil des enfants résilients et elle apporte des cibles d'intervention réalistes. Nos données invitent les programmes de prévention de l'échec scolaire à considérer le rôle fondamental du profil socio-affectif dans la réussite au début du primaire. Autant que possible, les interventions précoces auprès d'enfants d'âge préscolaire provenant de milieux défavorisés doivent investir dans le développement socio-affectif de l'enfant, ce qui implique, entre autres, un travail sur la coopération, l'empathie, l'affirmation de soi, l'autonomie, la tolérance et la prosocialité. Les compétences socio-affectives favorisent l'établissement de relations saines entre l'enfant et ses parents qui conduisent plus tard à une bonne entente de l'enfant avec ses enseignants et ses pairs, ce qui lui permet de participer pleinement aux occasions d'apprentissage, tant à la maison qu'à l'école.

Il ressort de cette thèse l'idée que les interventions auprès d'enfants à risque ne devraient pas être centrées uniquement sur les aspects personnels des enfants, mais aussi sur les attributs parentaux. Nos résultats aident à confirmer empiriquement la pertinence de certains programmes d'interventions réalisés à l'âge préscolaire et qui comprennent des actions tant auprès des enfants que de leurs parents (comme « Ces années incroyables », « Head Start », « HighScope Perry Preschool Program »). Il serait ainsi souhaitable d'intervenir auprès des parents, notamment en ce qui concerne la gestion du stress, la consolidation d'un réseau de soutien social et l'adoption de pratiques parentales sensibles aux besoins des enfants. De telles interventions pourraient contribuer à rendre l'environnement familial des enfants accueillant et propice à leur développement. Conséquemment, cela favoriserait leurs habiletés scolaires et donc leur bonne intégration à l'école. Ces hypothèses sont confirmées en partie par les résultats du dernier article de notre thèse qui suggèrent que les enfants provenant d'un milieu familial plus cohésif montrent plus de compétences sociales à l'école. La capacité des familles à résoudre les problèmes pourrait également être un point important à considérer lors d'interventions auprès de familles à risque. Les parents qui arrivent à bien gérer les événements négatifs et les difficultés quotidiennes sont probablement des modèles positifs pour leurs enfants. Ils ont plus souvent tendance à encourager leur sentiment de compétence quand vient le temps pour eux de gérer de façon autonome leurs propres difficultés.

5.3. Considérations méthodologiques générales

5.3.1. Force et limites de la thèse, et directions futures

Les forces de cette thèse reposent, premièrement, sur un échantillon qui comprend un grand nombre d'écoles et d'enseignants de milieux urbains et semi-urbains (environ

50 écoles et plus de 80 enseignants en première année du primaire). Cette diversité de contextes scolaires fait en sorte que les résultats de notre étude sont moins susceptibles d'être affectés par les caractéristiques spécifiques d'une école participante ou d'un enseignant répondant en particulier. Notre échantillon semble ainsi être bien représentatif de la population visée par cette étude, ce qui renforce la validité externe de nos résultats. Cette thèse a également pour point fort l'utilisation d'un devis de recherche « multi-répondants », c'est-à-dire que les données recueillies proviennent à la fois des parents, de l'enfant, et des enseignants à la maternelle et en première année de primaire. Cette méthode augmente l'indépendance des mesures utilisées et contribue à la validité des résultats.

Une des limites de notre recherche provient du fait qu'elle néglige les variables liées au contexte scolaire. En effet, la prise en considération d'aspects relatifs à l'école elle-même, comme le climat d'apprentissage, le style d'enseignement et le modèle de gestion de l'école, pourrait contribuer à l'identification de facteurs pertinents à la réussite scolaire des enfants résilients. Ces aspects du contexte scolaire ainsi que différents attributs personnels et familiaux seraient à considérer lors de recherches futures. Cela permettrait de mieux comprendre les ressources et mécanismes adaptatifs impliqués dans le processus de résilience scolaire.

Bien que la plupart des instruments adoptés dans notre étude présentaient un bon niveau de validité, l'inventaire familial auto-rapporté (IFA; Beavers et Hampson, 1990), utilisé pour mesurer le fonctionnement familial, a toutefois présenté des problèmes de qualité psychométrique. Les échelles originales de l'IFA avaient de faibles niveaux de cohérence interne. Notre équipe de recherche a alors regroupé les questions et quatre nouvelles échelles ont été créées : cohésion, harmonie, soutien affectif et résolution de problèmes. Malgré le fait que ces nouvelles échelles ont présenté de bons niveaux de cohérence interne, il est possible que les associations observées entre les variables n'aient pas été assez importantes en raison d'un possible

manque de sensibilité de l'instrument. Outre l'utilisation de mesures ayant de bonnes qualités psychométriques, nous recommandons d'inclure dans les recherches futures d'autres dimensions familiales peu étudiées, comme la flexibilité et la qualité de communication entre les membres de la famille.

Notre devis de recherche comprenait deux temps de mesures sur une période de 18 mois. Nous suggérons d'exécuter des études longitudinales sur une plus longue période de temps, ce qui impliquerait davantage de temps de mesures et permettrait d'examiner l'implication des attributs mesurés à l'âge préscolaire dans la réussite des élèves à travers le primaire et le secondaire. Les devis de recherche longitudinaux permettent également d'identifier des trajectoires développementales ou des sous-groupes d'enfants, ce qui permet de mieux comprendre le parcours des enfants résilients sur le plan scolaire, et d'en faire un meilleur portrait.

5.4. Conclusion générale

À l'heure actuelle, la réussite scolaire et l'obtention d'un diplôme constituent un atout majeur pour la participation sociale et l'intégration au marché du travail. Étant donné que la réussite des élèves en début de scolarisation constitue un très bon prédicteur de leur rendement scolaire ultérieur et de leur taux de diplomation au secondaire (Duncan *et al.*, 2007; Ou et Reynolds, 2008), il apparaît essentiel de faire en sorte que les enfants provenant de milieux défavorisés possèdent les moyens nécessaires pour bien réussir dès leur entrée dans le système scolaire. La présente thèse a contribué à l'avancement des connaissances dans ce domaine en analysant la validité des mesures d'évaluation de la réussite scolaire au début du primaire, en spécifiant les caractéristiques des enfants résilients sur le plan scolaire, et en déterminant les facteurs familiaux liés au profil socio-affectif des enfants à l'école. Notre étude a

permis également de suivre les enfants durant une période cruciale de leur vie, soit la période de transition entre la maternelle et l'école primaire. Pour les parents comme pour les enfants, cette période comporte déjà de nombreux défis. L'exposition à la pauvreté à ce moment-là ne fait qu'ajouter aux difficultés d'adaptation scolaire. En effet, les écrits scientifiques révèlent que l'exposition à la pauvreté a des effets plus néfastes sur les habiletés scolaires des enfants quand elle survient au début de la scolarisation plutôt qu'à la fin du primaire ou au secondaire (Brooks-Gunn et Duncan, 1997; Duncan *et al.*, 1998). Une transition réussie vers l'école s'avère donc particulièrement importante pour les enfants exposés à une grande adversité. Dans l'ensemble, notre thèse met en lumière les aspects personnels, familiaux et parentaux des enfants à l'âge préscolaire que l'on peut associer à leurs comportements et à leur performance scolaire au début du primaire. Ces résultats invitent les programmes de prévention en milieux défavorisés à inclure des modalités d'interventions psychosociales auprès des enfants et de leurs familles dans le but d'optimiser les ressources disponibles et de promouvoir les habiletés interpersonnelles et la réussite des enfants à l'école.

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