Université de Montréal

De l'évaluation des capacités langagières à la participation sociale d'enfants d'âge préscolaire

Étude d'une population clinique et des écrits scientifiques

Par

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Thèse présentée en vue de l'obtention du grade de Philosophiae Doctor (Ph.D.)

en Sciences de l'orthophonie et de l'audiologie

Avril 2023

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Université de Montréal

Unité académique : École d'orthophonie et d'audiologie, Faculté de Médecine

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Cette thèse intitulée

De l'évaluation des capacités langagières à la participation sociale d'enfants d'âge préscolaire
Étude d'une population clinique et des écrits scientifiques

Présentée par

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Résumé

Cette thèse veut optimiser l'évaluation d'enfants de 2 à 5 ans vivant avec un trouble développemental du langage (TDL), en se centrant moins sur leurs déficits et davantage sur leur participation sociale. Premièrement, la stabilité des atteintes langagières documentées par l'orthophoniste à l'âge préscolaire est vérifiée dans un échantillon d'enfants référés en clinique spécialisée. Deuxièmement, les méthodes d'évaluation de la participation pertinentes à cet âge, particulièrement dans le domaine de la socialisation, sont recensées. Troisièmement, l'applicabilité d'un modèle d'évaluation hiérarchique de la compétence sociale en collaboration avec le personnel éducateur et enseignant est testée dans une population clinique. Deux études de cohorte ont été menées avec des données extraites des dossiers médicaux d'enfants ayant consulté dans une clinique psychiatrique en petite enfance sur une période de dix ans (*N* = 466), et les écrits scientifiques ont été synthétisés par une revue de la portée.

Selon la première étude, la présence ou l'absence de difficultés langagières demeure très stable (94%) entre deux conclusions orthophoniques, chez des enfants référés en clinique spécialisée durant la petite enfance (*n* = 149). Au terme de la revue de littérature, les 480 publications retenues font état de 186 méthodes différentes visant à évaluer la participation d'enfants de 2 à 5 ans, notamment dans le domaine de la socialisation. Cette revue confirme aussi que le Profil socio-affectif de l'enfant (PSA; LaFreniere et al., 1997) est une mesure de la compétence sociale répandue dans le monde. La dernière étude permet d'identifier dans l'échelle de compétence sociale du PSA deux facteurs distincts, proposés selon le modèle théorique d'Ashton (2018). En contrôlant plusieurs caractéristiques d'enfants consultant en clinique avec TDL (*n* = 217) et sans TDL (*n* = 99), un modèle d'équation structurelle supporte la pertinence d'évaluer d'abord l'adaptation sociale (liée à la satisfaction des enfants, des pairs et des adultes dans l'interaction) puis, seulement si des difficultés d'adaptation sont observées, le fonctionnement social (lié aux comportements que l'enfant actualise).

Les retombées de cette thèse sont importantes. D'abord, elle démontre que des enfants référés en bas âge vers des services spécialisés ont un profil langagier extrêmement stable au préscolaire,

par opposition à ce qui avait été documenté dans la population générale. L'identification précoce du risque de persistance peut influencer les services offerts à ces enfants durant une période critique de leur développement. Ensuite, l'évaluation des impacts fonctionnels, désormais requise pour conclure à un TDL, peut être facilitée par la recension interdisciplinaire de mesures d'évaluation de la participation, notamment dans le domaine de la socialisation. Finalement, l'applicabilité d'un modèle hiérarchique d'évaluation de la compétence sociale, testé dans une population clinique en utilisant un outil déjà utilisé au Québec, pourrait favoriser la concertation de l'orthophoniste, du personnel éducateur et des partenaires d'autres disciplines, afin de favoriser l'inclusion de l'enfant dans les contextes éducatifs en petite enfance. En somme, les trois études offrent des ressources supplémentaires à l'orthophoniste et à toutes les personnes intéressées par un paradigme d'évaluation plus social que médical, dans le cadre de pratiques collaboratives et centrées sur la famille.

Mots-clés : trouble développemental du langage, petite enfance, évaluation, impacts fonctionnels, compétence sociale, services de garde, éducation préscolaire, adaptation, clinique pédopsychiatrique.

Abstract

This thesis aims to optimize the assessment of children aged 2 to 5 years with a developmental language disorder (DLD), focusing less on their deficits and more on their social participation. First, the stability of language impairments documented by the speech-language pathologist (SLP) at preschool age is verified in a sample of children referred to a specialized clinic. Second, participation assessment methods relevant to children aged 2 to 5 years, particularly in the area of socialization, are identified. Third, the applicability of a hierarchical assessment model of social competence in collaboration with educators and teachers is tested in a clinical population. Two cohort studies were conducted using data extracted from the medical records of children seen in an early childhood psychiatric clinic over a ten-year period (*N* = 466), and the scientific literature was synthesized by a scoping review.

The first study's results documented that the presence or absence of language difficulties remained very stable (94%) in children referred to a specialized clinic during early childhood (*n* = 149) when two SLP assessments were compared. The 480 publications retained at the end of the literature review report 186 different methods for assessing the participation of children aged 2 to 5 years, particularly in the area of socialization. This review also confirms that the Social Competence and Behavior Evaluation (SCBE; LaFreniere & Dumas, 1995) is a widely used measure of social competence in the world. The last study identifies two distinct factors in the SCBE social competence scale, based on Ashton's (2018) theoretical model. Controlling for several characteristics of children consulting in clinic with DLD (*n* = 217) and without DLD (*n* = 99), a structural equation model supports the appropriateness of first assessing social adjustment (related to child, peer, and adult satisfaction with interaction) and then, only if adjustment difficulties are observed, social functioning (related to the behaviors the child actualizes).

The implications of this thesis are significant. First, it demonstrates that children referred to specialized services at an early age have an extremely stable language profile in the preschool period, in contrast to what has been documented in the general population. Early identification of persistence risk may influence the services provided to the child during a critical period of

development. Second, the assessment of functional impacts, now required to conclude that a child has DLD, can be facilitated by the interdisciplinary review of measures of participation, particularly in the area of socialization. Finally, the applicability of a hierarchical model of social competence assessment, tested in a clinical population using a standardized tool already in use in Quebec, could foster collaboration among SLPs, preschool educators and teachers, and partners from other disciplines, to promote child inclusion in early childhood and preschool settings. In sum, all three studies provide additional resources for the SLP and all those interested in a more social than medical assessment paradigm, within collaborative, family-centered practices.

Keywords: developmental language disorder, early childhood, assessment, functional impacts, social competence, childcare, early education, adjustment, child psychiatry clinic.

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AAIDD : American Association on Intellectual and Developmental Disabilities

ABAS-II : Adaptive Behavior Assessment System -Second Edition

ADD / ADHD : Attention deficit disorder / Attention deficit hyperactivity disorder

ADOS / ADOS-2 : Autism Diagnostic and Observation Schedule / Second Edition

AIEH : Allocation pour l'intégration d'un enfant handicapé en service de garde

APA : American Psychiatric Association

ASC : Autism spectrum condition

ASHA : American Speech-Hearing Association

AVE : Average variance extracted

BEP : Besoins éducatifs particuliers

CATALISE : Criteria and Terminology Applied to Language Impairments: Synthesising the Evidence

CBCL 1½-5-LDS : Preschool Child Behavior Checklist -Language Development Survey

CELF : Clinical Evaluation of Language Fundamentals

CFI : Comparative fit index

CIF-EA / ICF-CY : Classification internationale du fonctionnement, du handicap et de la santé - Version pour enfants et adolescents / International Classification of Functioning, Disability, and Health -Children and Youth version

CIUSSS NIM : Centre intégré universitaire de santé et de services sociaux du Nord-de-l'Île-de-Montréal

COPM : Canadian Occupational Performance Measure

COSMIN : COnsensus-based Standards for the selection of health Measurement INstruments

CP : Communicative participation

CPPE : Clinique psychiatrique de la petite enfance

CPQ : Child's clinical pre-registration questionnaire

CR : Composite reliability

DCD : Developmental coordination disorder

DLD : Developmental language disorder

DSM-IV-TR /-5 / 5-TR : Manuel diagnostique et statistique des troubles mentaux / Diagnostic and Statistical Manual of Mental Disorders /Fourth Edition, Text Revision / Fifth Edition / Fifth Edition, Text Revision

ECE / SSGE : Early childhood education and care / Service de garde éducatif à l'enfance

EFA : Exploratory factor analysis

FOCUS : Focus on the Outcomes of Communication Under Six

fPRC : Family of participation-related constructs

HTMT : Heterotrait-monotrait ratio of correlations

ICD-10 : International Statistical Classification of Diseases and Related Health Problems -10th Revision

INESSS : Institut national d'excellence en santé et en services sociaux

BITSEA / ITSEA : Brief / Infant Toddler Social and Emotional Assessment

MDH-PPH : Modèle de développement humain – Processus de production du handicap

MG-CFA : Multigroup confirmatory factor analysis

NICHD : National Institute of Child Health and Human Development

ODD : Oppositional defiant disorder

OOAQ : Ordre des orthophonistes et audiologistes du Québec

OMS / WHO : Organisation mondiale de la santé / World Health Organization

PEDI : Pediatric Evaluation of Disability Inventory

PPC : Profile Preschool Communication

PSA / SCBE : Profil socio-affectif de l'enfant / Social Competence and Behavior Evaluation

RIPPH : Réseau international sur le Processus de production du handicap

RMSEA : Root mean square error of approximation

SC : Social competence

SCQ : Social Communication Questionnaire

SDQ : Strength and Difficulties Questionnaire

MG-SEM : Multigroup structural equation model

SLP : Speech-language pathologist

SRS : Social Responsiveness Scale

SSRS / SSIS : Social Skills Rating/Improvement System

TDL : Trouble développemental du langage

TL associé à X : Trouble du langage associé à une condition biomédicale identifiée

UK : United Kingdom

VABS : Vineland Adaptive Behavior Scale

WHODAS : World Health Organization Disability Assessment Schedule

YC-PEM : Young Children's Participation and Environment Measure

À Olivier, Cédric et Raphaëlle

Tout est possible

Remerciements

Je remercie d'abord toutes les familles qui ont croisé ma route et qui sont passées par la Clinique de la petite enfance de l'Hôpital Rivière-des-Prairies. Sans vous, cette thèse n'existerait pas. Je veux également remercier l'équipe de la CPPE, spécialement Julie Bélanger, pour m'avoir encouragée à toujours questionner nos pratiques. Cette équipe, spécialement Nicole Smolla, m'a aussi démontré que la recherche pouvait s'ancrer dans la réalité clinique, sans sacrifier à la rigueur. Je veux également remercier mes stagiaires et collègues du ROM, particulièrement Stéphanie St-Jean, Andréanne Savard et Andréanne Miele, pour leur support indéfectible et les discussions captivantes qui entretiennent ma passion pour l'orthophonie.

Mes plus profonds remerciements vont à Marie-Julie Béliveau et Natacha Trudeau, mes directrices de thèse. Avant de me diriger, vous m'avez guidée toutes les deux à votre manière vers cette aventure. Natacha, tu m'as fait goûter au plaisir de la recherche il y a vingt ans (!). Au fil des années, tu es demeurée un repère vers lequel me tourner. Tu m'as ouverte au monde universitaire, toujours disponible pour me fournir des occasions de m'impliquer, pour m'aider à croire en mes idées et les concrétiser, jusqu'en acceptant de m'accompagner dans ce projet doctoral. Marie-Julie, tu as d'abord été la collègue dont les questions m'obligeaient à réfléchir autrement. Ton parcours inspirant me sert de modèle et je me sens privilégiée que tu m'aies guidée sur ce chemin. J'ai osé vous demander de faire équipe pour me codiriger, et je n'aurais pas pu rêver mieux. C'est vraiment une chance inouïe que j'ai eue!

Je remercie également les membres du corps professoral dont les qualités humaines et professionnelles ne cessent de m'abasourdir. Merci à Nathalie Bigras et Stefano Rezzonico de m'avoir parrainée bien au-delà des rencontres du comité, merci au jury de mon projet de thèse et de mon examen synthèse pour avoir nourri et balisé ma démarche. Merci également à toutes les personnes du labo CLEA et de l'École d'orthophonie et d'audiologie, avec qui j'ai eu le plaisir de collaborer et qui m'ont permis de développer mes compétences en recherche et en enseignement. Un merci spécial à Julie McIntyre, Vincent Bourassa-Bédard, Marylène Dionne et Mélissa Di Sante à cet égard.

Merci à toutes les personnes impliquées au Laboratoire sur le développement et l'adaptation. Nicole Smolla, Claude Berthiaume, Alexanne Lessard et les autres qui ont pavé la voie. Fannie Labelle et Florence Valade pour tout ce qu'on a appris, partagé et bâti ensemble. Clara Soulez, Karine Jauvin et tant d'autres qui ont travaillé à la collecte, à la codification des données, aux réunions, présentations, rédactions et discussions essentielles à l'aboutissement de ce projet doctoral.

Les personnes qui se sont impliquées dans mon projet grandiose de revue de littérature sont nombreuses et méritent toutes mes plus sincères remerciements. Merci à Myrian Grondin, bibliothécaire, pour son soutien. Merci à Marylène Dionne et Stéphanie Bergeron pour leur implication du début à la fin. Merci à Alexandrine St-Onge d'avoir consacré son travail Honour à ce projet. Merci à Wassila Abroudj, Janik Aubin Martin, Sarah Ben Karim, Amina Bensari, Sarah Drouin, Émilie Lamarre, Claudie Tremblay et Andréanne Savard pour leur précieuse implication.

Je remercie l'École d'orthophonie et d'audiologie et la Faculté des études supérieures et postdoctorales de l'Université de Montréal, le Conseil de recherches en sciences humaines du Canada et le Fonds de recherche du Québec -Société et Culture pour leur support financier.

Merci Marc d'être demeuré un pilier inébranlable au milieu de ce tourbillon. Tu crois toujours en moi. Merci à mes enfants, Olivier, Cédric et Raphaëlle, que je vois grandir et dont je suis si fière. Merci à la famille dans laquelle j'ai grandi. Mon père Pierre, mes sœurs Isabelle et Michèle et spécialement ma mère, Hélène Fafard, qui m'ont soutenue dans ce projet comme dans tous les autres moments de ma vie. Merci Maman de m'avoir relue, questionnée et encouragée sans relâche. Surtout, merci de m'avoir transmis ta passion pour l'éducation.

Avant-propos

Exercer la profession d'orthophoniste dans une clinique pédopsychiatrique a modulé ma pratique et mes questionnements. Il y a près de 20 ans, j'ai fait la rencontre de ces familles et de ces enfants référés vers des services spécialisés à un tout jeune âge, en « rupture de fonctionnement ». Les échanges familiaux étaient compliqués, le milieu de garde procédait à leur expulsion, leur manque de repères pour jouer, échanger, réfléchir et s'épanouir inquiétait et motivait la consultation. Chez ces enfants, les difficultés de langage significatives s'accompagnaient d'autres enjeux développementaux, émotionnels et comportementaux. En partenariat étroit avec les familles, il importait d'établir en interdisciplinarité un portrait holistique et rigoureux de la réalité de l'enfant, afin d'identifier les leviers pouvant améliorer son fonctionnement au quotidien. Jusqu'à récemment, les données probantes et les guides de pratique abordaient peu l'importance des impacts fonctionnels dans le domaine de l'orthophonie en petite enfance. Une mouvance internationale visant à mieux faire connaitre le trouble développemental du langage et ses retombées dans la vie des personnes concernées est désormais bien amorcée, facilitée par les travaux du groupe CATALISE pour en clarifier les critères et la terminologie (Bishop et al., 2016; 2017). Ce projet doctoral veut y contribuer en jetant la lumière sur une population clinique peu étudiée et en s'inspirant des avancées effectuées dans différentes disciplines pour innover.

En tant que première auteure des trois articles de cette thèse, je suis responsable des questions de recherche, de la collecte de la majorité des données, de toutes les analyses et du processus de rédaction. Coauteures des trois articles, mes codirectrices de thèse, Natacha Trudeau et Marie-Julie Béliveau, ont soutenu et apporté leur éclairage à l'ensemble du projet. Les données rapportées dans le premier et le troisième article s'inscrivent dans un projet de grande envergure dirigé par Dre Béliveau. Pour le premier article, les coauteures Fannie Labelle et Florence Valade ont collaboré à la collecte au laboratoire de Dre Béliveau, à la bonification et à la révision du manuscrit. Les coauteures du deuxième article, Marylène Dionne et Stéphanie Bergeron, ont contribué à la collecte et à l'analyse, ainsi qu'à la révision du manuscrit. Pour le troisième article, Stefano Rezzonico m'a soutenue pour les analyses statistiques et révisé l'ensemble du manuscrit.

Chapitre 1 – Problématique

Les besoins des personnes vivant avec un trouble développemental du langage (TDL) sont encore méconnus et insuffisamment pris en compte dans notre société (Thordardottir et Topbas, 2021). Suivant la terminologie et la nomenclature proposées par un consensus international d'experts anglophones (CATALISE; Bishop et al., 2017), un trouble du langage peut être identifié lorsque des difficultés à comprendre ou à s'exprimer persistent ou sont susceptibles de persister dans le temps (critère 1 : *poor prognosis*) et affectent significativement le fonctionnement au quotidien (critère 2 : *everyday functioning*). Ces deux critères diagnostiques déterminent la présence d'un trouble du langage, qu'il soit ou non associé à des problématiques cooccurrentes (p.ex., difficultés attentionnelles ou motrices) ou à d'autres facteurs de risque (p.ex., antécédents familiaux). Selon une étude populationnelle, la prévalence des enfants de quatre à cinq ans qui ont un trouble du langage d'origine inconnue (TDL) est de 7,58%, auxquels s'ajoutent 2,34% des enfants qui ont un trouble du langage associé à une condition biomédicale identifiée (TL associé à X; p.ex., déficience intellectuelle, trouble auditif, trouble du spectre de l'autisme, déficience motrice cérébrale) (Norbury et al., 2016). Bien que le TDL apparaisse à l'enfance, l'identifier efficacement et précocement demeure un défi. Il est essentiel de s'intéresser à cette problématique en raison du grand nombre d'enfants touchés ainsi qu'en raison des impacts significatifs de ce trouble sur la qualité de vie et le devenir de l'enfant, de la petite enfance à l'âge adulte (Feeney et al., 2016).

Afin de bonifier les pratiques d'évaluation du TDL chez les enfants de moins de cinq ans, plusieurs enjeux doivent être considérés. Évidemment, des défis inhérents à l'identification précoce des critères diagnostiques du TDL existent, car les données probantes concernant les risques de persistance des difficultés langagières observées en bas âge sont minces et les façons d'apprécier les impacts fonctionnels sur la vie du jeune enfant sont peu balisées. Ces problématiques doivent être abordées en considérant que l'enfant se développe de façon holistique, ce qui exige la prise en compte des comorbidités et des caractéristiques de l'environnement, et fait ressortir la nécessité de la collaboration interprofessionnelle. Finalement, il est essentiel de se positionner en fonction de la perspective des familles qui vivent avec le TDL, tout en prenant acte de la tension

existante entre le modèle médical et l'approche sociale dans les services offerts aux jeunes enfants, particulièrement dans les services éducatifs à l'enfance.

Considérations générales

Il est généralement reconnu que les meilleures pratiques d'évaluation chez l'enfant sont celles qui tiennent compte du développement, qui sont utiles à l'intervention et centrées sur la famille (Eagle et al., 2016). Comme les enjeux liés à l'évaluation du TDL en bas âge peuvent être abordés de multiples façons, il importe d'évoquer quelques postures théoriques influençant la recherche effectuée dans le cadre de cette thèse.

Le développement global et intégré de l'enfant

Comme le jeune enfant se développe de façon intégrée, il fait des apprentissages simultanés dans différents domaines qui s'influencent mutuellement (p.ex., langagier, social, affectif, cognitif, physique et moteur), tout au long des premières années de vie (Bouchard, 2019 ; Gouvernement du Québec, 2014). En ce sens, il appert primordial de considérer l'enfant comme un tout et de ne pas perdre de vue l'ensemble de sa réalité, même lorsque l'évaluation s'intéresse à un domaine en particulier. Ce postulat théorique supporte l'importance de tenir compte dans la recherche des facteurs personnels et environnementaux de l'enfant (p.ex., identité de genre, âge, contexte familial, milieux de socialisation), tout comme de l'importante cooccurrence des difficultés neurodéveloppementales documentées à l'enfance (American Psychiatric Association [APA], 2022; Cleaton et Kirby, 2018). Le modèle bioécologique rappelle également que l'enfant se développe en participant à des activités réciproques de plus en plus complexes de façon régulière et soutenue, avec au moins une personne à qui il est attaché et qui s'engage à l'accompagner (Bronfenbrenner et Morris, 2006). En d'autres mots, les personnes avec qui et les contextes dans lesquels l'enfant se développe interagissent avec ses capacités individuelles, influençant ses succès, ses échecs et ses apprentissages ultérieurs. Ainsi, l'évaluation et l'intervention devraient s'intéresser dès la petite enfance à optimiser la participation et la compétence de l'enfant au quotidien, afin qu'un développement positif en cascades puisse être favorisé. Selon ces théories, l'efficacité dans un domaine pourrait permettre plus tard d'étayer le développement d'autres compétences, possiblement dans d'autres domaines (Masten, 2006; Masten et Ciccetti, 2010).

La volonté des familles et de la société

Les témoignages des parents, des enfants et des jeunes vivant avec un TDL rappellent que les problèmes de communication ne tiennent pas uniquement aux incapacités d'un individu; ils dépendent également des personnes impliquées dans l'interaction et des facteurs de l'environnement qui la facilitent ou l'entravent (Ekstrom et al., 2023). Alors que les spécialistes ont tendance à focaliser sur les (in)capacités, les parents se disent plus préoccupés par la participation de leur enfant, notamment dans le domaine de la socialisation (Jensen de Lopez et al., 2021; Thomas-Stonell et al., 2009; Roulstone et al., 2012). À l'âge préscolaire, les parents d'enfants avec difficultés développementales seraient plus susceptibles de désirer un changement dans la participation de l'enfant aux activités d'apprentissage en groupe et de socialisation avec les amis que de désirer un changement dans la participation à la maison (Benjamin et al., 2017). Lorsque consultés, les enfants eux-mêmes rapportent des besoins fonctionnels qui varient grandement d'un individu à l'autre (Lyons et Roulstone, 2018; Jasmin et al., 2018). Il importe donc de développer des pratiques évaluatives utiles et cohérentes à l'établissement d'objectifs fonctionnels et pertinents à la personne évaluée, afin de soutenir la mise en place du type d'intervention souhaité par les familles (Kwok et al., 2022).

Pour soutenir la participation des enfants ayant des besoins particuliers, les personnes professionnelles œuvrant en petite enfance sont de plus en plus encouragées à favoriser des approches basées sur les forces, et ce, dès l'évaluation. Plutôt que de se centrer sur les déficits, ces approches incitent les personnes professionnelles à accompagner l'enfant et son entourage dans l'identification de leurs propres ressources, ce qui sert ensuite à initier le changement (Fenton et al., 2015). Une telle posture évaluative se centre sur l'unicité du profil de chaque personne et sur la mise en exergue de ses forces, ce qui encourage également à s'intéresser davantage aux besoins de la personne qu'à ses diagnostics (Shanmugarajah et al., 2021). Ce type d'approche à l'évaluation et à l'intervention nécessite la mise en place de réelles pratiques collaboratives entre toutes les personnes impliquées, incluant la famille et les spécialistes de la petite enfance, et suggère un paradigme d'évaluation sensiblement différent de ce qui se fait actuellement (Langner & Fukkink, 2022). En effet, il faut considérer que l'adoption de ces pratiques demeure entravée par la tension persistante entre le modèle médical et l'approche

sociale dans les services offerts en petite enfance, ici comme ailleurs (Barral, 2007; Parazelli et al., 2022). Alors que le modèle médical est surtout centré sur l'identification et la réadaptation des déficits individuels pour favoriser la participation, l'approche sociale prône que la société est responsable d'accueillir la différence et de mettre en place les moyens permettant à chaque personne de contribuer, peu importe ses caractéristiques personnelles (Barral, 2007). En ce sens, les services de garde éducatifs à l'enfance (SGEE) québécois sont importants, puisqu'ils accueillent 73% de tous les enfants d'un à quatre ans (2019-2020; Gouvernement du Québec, 2021), et que les principes inclusifs relevant de l'approche sociale sont centraux à leur mission, tout comme à celle de l'éducation préscolaire (Gouvernement du Québec, 2019; 2021b).

Pour s'assurer que la participation des enfants à besoins éducatifs particuliers (BEP) soit valorisée et possible dans des conditions équivalentes à celles des autres enfants (Gouvernement du Québec, 2009; UNESCO, 2021), le ministère de la Famille estime avoir distribué 50 358 mesures de soutien « afin de favoriser la participation sociale des enfants handicapés et de leur famille » en 2017-2018, visant un accroissement de 16% d'ici 2023 (Gouvernement du Québec, 2021, p.25). Parmi ces mesures de soutien, l'Allocation pour l'intégration d'un enfant handicapé en service de garde (AIEH) est dédiée au SGEE. Or, les critères gouvernementaux d'accès à l'AIEH illustrent l'incursion de l'approche médicale dans le monde des services de garde éducatifs; ils exigent qu'une personne professionnelle (p.ex., médecin, orthophoniste, psychologue) confirme les incapacités individuelles de l'enfant de moins de cinq ans et fournisse des recommandations ayant trait à son inclusion, avant qu'un plan d'intégration soit élaboré par le SGEE en collaboration avec le parent. Pourtant, la visée de l'AIEH est que l'enfant participe « autant que possible à l'ensemble des activités du service de garde » (Gouvernement du Québec, 2020, p.2), ce qui est en lien avec l'approche sociale. En outre, les sommes versées doivent être utilisées par le SGEE pour soutenir l'inclusion dans le groupe et non pas pour payer des services de réadaptation. L'ambivalence théorique entourant la démarche d'inclusion des enfants à BEP complexifie le choix du paradigme d'évaluation, des objectifs et des mesures à privilégier auprès des enfants d'âge préscolaire. Pour les enfants composant avec un TDL, l'orthophoniste doit à la fois bien documenter le risque de persistance des atteintes langagières et leur fonctionnement en contexte éducatif à l'enfance. Comme les facteurs favorables ou nuisibles à la participation des

jeunes enfants confrontés à des difficultés langagières sont très peu connus et peu étudiés, il est nécessaire d'approfondir les connaissances à ce sujet, notamment dans le domaine de la socialisation. En effet, les SGEE et l'ordre d'enseignement préscolaire n'ont aucune obligation d'accueillir ou d'accompagner les enfants avant cinq ans, ce qui peut entraîner des situations d'exclusion et de rejet lorsque les milieux ne se sentent pas suffisamment outillés pour le faire (Ferri et Bacon, 2011; Loi sur l'instruction publique, 2020).

Une vision transdisciplinaire du fonctionnement

L'appréhension et l'opérationnalisation des concepts liés au fonctionnement quotidien de l'enfant est moins simple qu'il n'y paraît. Transcendant les disciplines, l'évaluation du fonctionnement n'est pas abordée de la même façon, ni avec la même terminologie, par les divers spécialistes qui s'y intéressent. Avant de se pencher sur l'évaluation des impacts fonctionnels chez l'enfant vivant avec un TDL, il appert nécessaire de d'abord considérer l'existence de multiples cadres conceptuels, pour ensuite clarifier l'angle qui sera privilégié dans cette thèse.

Dans le domaine de la santé mentale, le terme « fonctionnement » peut être considéré sur un continuum; il y a « atteinte fonctionnelle » quand l'enfant n'arrive pas à s'impliquer dans les situations de la vie quotidienne tel qu'attendu et il y a un « fonctionnement adaptatif » lorsqu'il y réussit (Becker et al., 2011). L'évaluation des comportements adaptatifs peut concerner de nombreux aspects de la vie de l'enfant. « L'American Association on Intellectual and Developmental Disabilities (AAIDD; Schalock et al., 2010) définit le comportement adaptatif comme étant « l'ensemble des habiletés conceptuelles, sociales et pratiques apprises par la personne qui lui permet de fonctionner au quotidien » (Von Rotz et Straccia, 2021, p.37). Les trois domaines généraux du comportement adaptatif (conceptuel, social, pratique) s'évaluent par le biais de différents sous-domaines. Par exemple, le domaine de la communication correspond aux habiletés conceptuelles dans les échelles de comportement adaptatif Vineland, et pourrait être évalué en demandant aux parents comment l'enfant utilise les mots pour fournir de l'information; les habiletés pratiques sont représentées par les compétences de la vie quotidienne et pourraient être évaluées en vérifiant si l'enfant arrive à s'habiller ou à manger sans aide. Finalement, le domaine de la socialisation pourrait être évalué en vérifiant comment l'enfant joue, interagit et fait preuve de sensibilité avec les autres (Vineland-3; Sparrow et al., 2016).

Selon la *Classification internationale du fonctionnement, du handicap et de la santé -Version pour enfants et adolescents* (CIF-EA; Organisation mondiale de la santé [OMS], 2007), le fonctionnement est un terme beaucoup plus neutre qui englobe toutes les fonctions organiques, les activités et la participation. Issue d'une collaboration internationale et proposée par l'OMS en 2001, la CIF propose un modèle biopsychosocial pour représenter le handicap. Ce modèle souligne que tous les aspects du fonctionnement sont en interaction entre eux, mais surtout avec les facteurs environnementaux (Barral, 2007). Selon la CIF-EA, si « une activité signifie l'exécution d'une tâche ou le fait pour une personne de faire quelque chose », « la participation est définie comme « l'implication de l'individu dans une situation de la vie réelle » et constitue donc la perspective sociétale du fonctionnement » (OMS, 2007, p.xviii, p.14). Ainsi, pour expliquer la restriction de participation d'une personne, s'intéresser à un problème de santé (trouble ou maladie) ne suffit pas; il est nécessaire de tenir compte de tous les facteurs faisant partie de son contexte de vie, incluant les facteurs personnels (p.ex., le sexe, l'origine sociale) et les facteurs environnementaux (physique, social et attitudinal; Barral, 2007). Dans le cadre de la CIF, neuf domaines communs peuvent être utilisés pour décrire les activités (capacités, dans un environnement normalisé) ou la participation (performance, en contexte de vie ordinaire). En ce sens, l'évaluation de la participation nécessite absolument la prise en compte des facteurs environnementaux. La classification de la CIF-EA est très discutée dans les écrits scientifiques internationaux, et vise à promouvoir un langage commun qui transcende les disciplines. La version originale de la CIF ayant été publiée en 2001, elle n'a pas nécessairement remplacé toutes les conceptualisations du fonctionnement déjà en place, mais plusieurs efforts d'harmonisation sont prônés et rapportés dans la littérature. Selon Goldstein et Naglieri (2016), les comportements adaptatifs évalués en psychologie recouperaient les activités et la participation décrites par la CIF. De plus, le *Manuel diagnostique et statistique des troubles mentaux* (DSM-5-TR; APA, 2022) propose dorénavant d'évaluer les impacts fonctionnels à l'aide d'une mesure basée sur la CIF, le *World Health Organization Disability Assessment Schedule* (WHODAS; Üstun et WHO, 2010; Goldstein et Naglieri, 2016).

Le concept de participation continue d'évoluer dans la littérature, donnant lieu à des propositions de modifications de la CIF (Ginis et al., 2017; Van de Velde et De Vriendt, 2018) ou à de nouveaux

modèles, comme le *Family of participation-related constructs* (fPRC; Imms et al., 2017) ou le *Modèle transactionnel pour la rédaptation pédiatrique* (King et al., 2018), qui tiennent compte de l'assiduité et de l'implication de l'enfant durant l'activité. En parallèle de la CIF, le *Modèle de développement humain – Processus de production du handicap* (MDH-PPH; Réseau international sur le Processus de production du handicap [RIPPH], 2019) est une conceptualisation qui a pris naissance au Québec dès la fin des années 1990. Le MDH-PPH est bien connu des orthophonistes de la province, car il est implanté dans les milieux cliniques de réadaptation depuis plus de vingt ans. Dans le cadre du MDH-PPH, c'est le concept de participation sociale qui correspond à la pleine réalisation des habitudes de vie de la personne, qu'il s'agisse d'une activité courante ou d'un rôle valorisé par la personne ou son contexte. Lorsque l'interaction entre les facteurs personnels (déficience, incapacités, autres caractéristiques de l'individu) et les facteurs environnementaux (facilitateurs, obstacles) entravent cette participation, il y a situation de handicap (RIPPH, 2019). En somme, les modèles s'intéressant à la participation sont nombreux, mais les plus connus comme les plus récents la décrivent de façon transactionnelle, et incitent à situer la personne en contexte plutôt qu'à séparer la personne de son environnement.

En orthophonie, une équipe de recherche néerlandaise a récemment employé la méthode Delphi pour définir et opérationnaliser de façon consensuelle le concept de « communicative participation (CP) », chez des enfants de deux à huit ans ayant des difficultés langagières. La définition retenue par le panel composé de parents, d'orthophonistes, de personnes œuvrant en éducation et dans d'autres professions a été publiée en anglais : « CP is understanding and being understood in a social context, by applying verbal and non-verbal communication skills » (Singer et al., 2020). Le panel s'est également entendu sur 33 items opérationnalisant ce concept sous trois thèmes : comprendre les autres, être compris et interagir avec les autres. Les affirmations retenues paraissent également recouper ce que la CIF décrit comme étant l'évaluation des activités (p.ex., « The child understands instructions that match his or her developmental age ») et de la participation (p.ex., « The child connects with other children and adults » (Singer et al., 2020). Pour Singer et al. (2020), une diminution de la participation à la communication (CP) pourrait correspondre à un impact fonctionnel des difficultés langagières observées chez les enfants. Selon les critères diagnostiques du DSM-5, une définition très semblable à celle d'une

diminution de la participation à la communication sert plutôt à décrire les symptômes d'un trouble de la communication sociale (pragmatique). Ce trouble est défini par (A) des *difficultés persistantes dans l'utilisation sociale de la communication verbale et non verbale,* devant elles-mêmes (B) [entraîner] *des limitations fonctionnelles dans un ou plusieurs des éléments suivants : communication effective, intégration sociale, relations sociales, réussite scolaire, performances professionnelles* (APA, 2015, p.53).

La communication sociale peut se définir comme la capacité d'une personne à appliquer les comportements attendus dans la communication (Adams, 2005) et résulte de la synergie entre divers facteurs développementaux, incluant notamment la cognition sociale et les capacités pragmatiques. La pragmatique, qui peut se définir comme la capacité à comprendre et à utiliser le langage en contexte (Bates, 1976, cité dans Hyter, 2017), est une composante qui fait partie intégrante du langage selon CATALISE (Bishop et al., 2017). Toutefois, il importe de souligner que la conceptualisation des troubles touchant la pragmatique et la communication sociale n'est pas consensuelle entre les professions. En effet, bien que le DSM-5 distingue le trouble de la communication sociale des troubles du langage, le consensus CATALISE n'a pas retenu cette distinction. D'autre part, au-delà des débats concernant la place de la pragmatique à l'intérieur ou à l'extérieur des composantes langagières, la possible confusion entre les symptômes et les impacts d'un trouble est bien réelle. Cet enjeu n'est pas unique au domaine du langage et de la communication et serait rencontré dans l'évaluation de différentes problématiques liées au développement et à la santé mentale (Goldstein et Naglieri, 2016).

Dans la présente thèse, nous proposons que les orthophonistes visent à documenter dans l'évaluation du TDL (Bishop et al., 2017) les « atteintes fonctionnelles » qui représentent les conséquences du trouble « dans la vraie vie » (Weiss et al., 2018). Elles correspondraient donc à des restrictions de la participation selon la terminologie de la CIF-EA (OMS, 2007) ou encore à des situations de handicap, selon le MDH-PPH (RIPPH, 2019), par opposition à des incapacités documentées dans des tâches isolées ou des contextes normalisés. De plus, suivant le caractère holistique du développement de l'enfant, l'angle adopté dans cette thèse consiste à définir de façon large les atteintes fonctionnelles que l'orthophoniste vise à documenter, sans se restreindre à un domaine ou à un autre. Ceci suppose d'aller au-delà de la communication

fonctionnelle, ce qui pourrait également faciliter la distinction des symptômes et des impacts liés aux difficultés langagières. Néanmoins, une attention particulière sera accordée au domaine de la socialisation (*Activités et relations avec autrui* selon la CIF-EA; OMS, 2007), suivant l'état actuel des connaissances concernant les enfants d'âge préscolaire vivant avec un TDL. Puisque la littérature démontre que les difficultés liées au TDL se répercutent de façon importante sur la socialisation, l'acceptation par les pairs et le rôle de l'enfant dans un groupe (McCabe, 2005; McCormack et al., 2009), une façon pertinente pour l'orthophoniste de documenter l'impact du TDL sur le fonctionnement quotidien de l'enfant d'âge préscolaire pourrait être de se centrer sur sa compétence sociale avec les pairs.

La compétence sociale : une porte d'entrée sur la participation

La compétence sociale est un concept qui ne décrit pas l'ensemble de la participation de la personne. Néanmoins, elle affecte la pleine réalisation des activités et des rôles reliés au domaine de la socialisation, qui tient une place prédominante dans la vie des enfants de cinq ans et moins. La compétence sociale peut être définie de multiples façons (Lillvist et al., 2009; Longobardi et al., 2016). Dans une perspective fonctionnelle, Rose-Krasnor (1997) la détermine par l' « efficacité dans l'interaction sociale », où le concept d'efficacité englobe à la fois la perspective de soi et des autres et où la compétence sociale est considérée transactionnelle, dépendante du contexte et spécifique à un objectif (Rose-Krasnor, 1997). En tant que groupe, les enfants d'âge préscolaire et scolaire présentant un TDL s'avèrent moins compétents socialement que leurs pairs (McCabe et Meller, 2004). Néanmoins, une grande variabilité interindividuelle existe au point de vue de la compétence sociale, ne pouvant qu'être partiellement expliquée par le type et la sévérité des atteintes langagières, ainsi que la présence de troubles concomitants (Hart et al., 2004; Longobardi et al., 2016; Longoria et al., 2009; McCabe, 2005).

Lors d'une étude pilote auprès d'enfants ayant tous un TDL affectant la compréhension et l'expression à un niveau sévère, l'importance de la variabilité du niveau de compétence sociale a aussi été mis en évidence chez 99 enfants ayant consulté dans une clinique spécialisée en pédopsychiatrie. Selon les observations rapportées par la personne éducatrice ou enseignante à l'échelle de compétence sociale du Profil socio-affectif de l'enfant (PSA; LaFreniere et al., 1997),

elle était déficitaire pour 34% des enfants (score T ≤ 37), faible pour 38,3% d'entre eux (score T de 38 à 43) alors que 27,7% des sujets présentaient une compétence sociale satisfaisante pour l'âge (score T ≥ 44), démontrant que le niveau de compétence sociale de l'enfant dans un groupe clinique ne peut être directement déduit du niveau de sévérité des atteintes langagières (Breault et al., 2018, données mises à jour en 2021).

En ce sens, un modèle d'évaluation hiérarchique de la compétence sociale développé par Ashton (2018) pourrait être intéressant pour les enfants vivant avec un TDL. En pensant aux enfants ayant subi un traumatisme crânien, Ashton (2018) a synthétisé les modèles théoriques de la compétence sociale pour proposer un modèle d'évaluation en trois paliers, illustrés par une pyramide. Au sommet se trouve l'adaptation sociale (mesurée selon la satisfaction de l'enfant, de ses pairs et des adultes dans l'interaction sociale), soutenue par le fonctionnement social (mesuré selon les comportements présentés par l'enfant dans l'interaction sociale), qui s'appuie lui-même sur le socle des habiletés socio-cognitives (mesuré par les capacités individuelles de l'enfant). Ces trois étages de la pyramide sont influencés par les autres facteurs personnels et environnementaux de l'enfant. Le modèle d'Ashton (2018) propose d'évaluer l'adaptation sociale de l'enfant d'abord, puis de poursuivre l'investigation aux niveaux du fonctionnement social et des habiletés socio-cognitives seulement si un problème est identifié. Ceci suggère un renversement de paradigme pour les personnes professionnelles qui ont l'habitude de documenter d'abord les (in)capacités de l'individu pour ensuite les lier au fonctionnement observé dans la vie réelle.

Selon Ashton (2018), les habiletés socio-cognitives au bas de la pyramide incluent par exemple la théorie de l'esprit, la perception des émotions, les capacités de résolution de problème, le contrôle attentionnel et la vitesse de traitement de l'information. Les capacités langagières réceptives, expressives et pragmatiques font également partie des habiletés socio-cognitives citées dans le modèle d'Ashton. Ceci est cohérent avec la représentation des composantes langagières selon le consensus CATALISE, incluant la phonologie, la syntaxe, la sémantique/l'accès lexical, la mémoire/l'apprentissage verbal(e), le discours et la pragmatique/l'utilisation du langage (Bishop et al., 2017). Dans le modèle d'Ashton, le palier du fonctionnement social inclut différents comportements que l'enfant manifeste en contexte d'interaction, tels que la

coopération avec les pairs, l'inhibition comportementale et la communication verbale et non-verbale. Ceci apparaît également cohérent avec la définition de la communication sociale, qui consiste en l'application par l'enfant des comportements attendus dans la communication. En ce sens, il appert juste de penser que lorsque l'orthophoniste évalue les capacités langagières de l'enfant, incluant sa maîtrise des règles pragmatiques « en théorie », celles-ci font partie des habiletés socio-cognitives nécessaires à la compétence sociale. De même, lorsque l'orthophoniste évalue les comportements communicatifs de l'enfant en contexte de vie réelle, par exemple dans l'échange avec des pairs, c'est une portion du fonctionnement social représenté par le modèle d'Ashton qui est évaluée. À notre connaissance, les pratiques orthophoniques d'évaluation incluent plus rarement une appréciation des concepts décrits par Ashton (2018) au palier de l'adaptation sociale, c'est-à-dire la satisfaction sociale subjective rapportée par l'enfant, ses parents et les personnes éducatrices ou enseignantes, ainsi que l'acceptation par les pairs telle qu'elle pourrait être mesurée par sociométrie.

Enjeux liés à l'évaluation du TDL chez le jeune enfant

Que ce soit en Grande-Bretagne, aux États-Unis ou au Québec, les bonnes pratiques cliniques commandent à l'orthophoniste d'évaluer l'enfant d'âge préscolaire lorsque des inquiétudes sont soulevées vis-à-vis de ses habiletés communicationnelles, langagières ou de parole, dans le but d'établir un plan d'intervention. L'évaluation doit considérer l'enfant dans son ensemble, être effectuée en collaboration avec les proches, combiner divers moyens d'observation et permettre d'apprécier la performance de l'enfant dans différents environnements (American Speech-Hearing Association [ASHA], 2008; Code des professions, 2022; Taylor-Goh, 2017). L'analyse globale de l'orthophoniste permettra de conclure à la présence ou à l'absence d'atteintes langagières et d'impacts fonctionnels, puis orientera les recommandations les plus pertinentes. La conclusion émise par l'orthophoniste constitue ainsi la pierre angulaire des décisions cliniques et bien souvent de l'éligibilité aux services, en raison des contraintes administratives existantes. Cependant, plusieurs enjeux liés à l'évaluation du TDL demeurent non résolus à ce jour (Thomas et al., 2019), malgré les travaux récents du consensus CATALISE. Des données probantes sont nécessaires pour optimiser les services offerts aux jeunes enfants.

Enjeux liés au premier critère : atteintes langagières persistantes

En évaluation, l'orthophoniste apprécie les capacités langagières de l'enfant. Cependant, prédire la persistance des atteintes documentées à l'âge préscolaire s'avère problématique pour identifier précocement le TDL.

L'instabilité des capacités langagières en bas âge

Bien que les habiletés langagières d'une personne soient une composante développementale globalement stable dans le temps, c'est à la période préscolaire que la plus grande variabilité est observée (Bornstein et al., 2014; 2016a; 2016b; 2018). La stabilité peut être établie par l'obtention d'un rang similaire dans la distribution des résultats obtenus à des tests standardisés ou par l'attribution d'une même catégorie diagnostique à travers le temps. Les capacités langagières seront donc considérées stables si elles se comparent de la même façon à celles des pairs, et ce même si elles s'améliorent par rapport à elles-mêmes (Bornstein et al., 2014). Or, parmi les enfants éprouvant des difficultés à développer leur langage, il est connu qu'un certain nombre rejoindront les capacités de leurs pairs avant l'entrée à l'école. Selon les études populationnelles, entre 45% et 63% des enfants chez qui des difficultés langagières ont été identifiées à l'âge de quatre ans ou moins par des rapports parentaux, des relevés de vocabulaire ou des résultats à certains tests standardisés n'étaient plus considérés en difficulté à l'âge de cinq ans (Eadie et al., 2014; Hawa et Spanoudis, 2014; Rescorla, 2011). Ces données se reflètent dans les balises cliniques fournies par le consensus CATALISE (Bishop et al., 2017) et le DSM-5-TR (APA, 2022), ce qui incite les orthophonistes à une grande prudence dans l'émission de leurs conclusions cliniques avant l'âge de quatre ans, de crainte de confondre la variabilité interindividuelle ou des difficultés transitoires avec la présence d'un TDL.

Le manque de données concernant les populations cliniques

Il est rare que la stabilité langagière soit étudiée chez de jeunes enfants pour qui l'inquiétude parentale a motivé une consultation et dont les capacités ont fait l'objet d'une évaluation orthophonique dans les règles de l'art. La recherche concernant la stabilité des difficultés langagières en bas âge s'est traditionnellement concentrée sur des populations tout-venants, où la présence et la persistance de difficultés étaient établies par des résultats psychométriques,

sans nécessairement tenir compte de la présence ou de l'absence d'autres facteurs cliniques. Même s'il est reconnu que plus l'enfant de 4 ans présente un grand nombre de composantes atteintes, plus les difficultés langagières risquent de persister (Bishop et Edmundson, 1987), peu d'études incluent des enfants de moins de cinq ans dont le TDL a été établi en clinique (Bishop et al., 2017). De plus, la recherche concernant les enfants vivant avec un TDL s'est traditionnellement concentrée sur les « cas purs », rendant les données recueillies difficilement généralisables aux enfants présentant des difficultés cooccurrentes et diverses caractéristiques familiales, linguistiques et culturelles, ce qui serait la règle plutôt que l'exception (Bishop et al., 2017). En ce sens, il est difficile d'établir les meilleures pratiques appropriées aux populations d'enfants vivant avec un TDL, notamment celle consultant en clinique spécialisée. Les enfants consultant dans les cliniques pédopsychiatriques pour diverses problématiques émotionnelles ou comportementales présentent le plus souvent des difficultés développementales ayant été sous-estimées et sous-identifiées; la prévalence des déficits langagiers dans cette population est estimée à près de 80% (Hollo et al., 2014; Smolla et al., 2018). Des études s'intéressant à la stabilité des difficultés langagières observées en bas âge chez ces enfants sont nécessaires.

Les préjudices d'une identification retardée

De façon générale, les enfants dont le TDL est identifié précocement et bénéficiant d'une prise en charge appropriée auraient un meilleur pronostic (Conti-Ramsden et al., 2018). En ce sens, il peut être préjudiciable à plusieurs enfants ayant recours à des services spécialisés de reporter l'identification d'un TDL, sous prétexte que les facteurs de persistance dans la population générale sont insuffisamment établis en bas âge. Le continuum de services recommandé pour les enfants vivant avec un TDL est de plus en plus réfléchi selon une logique basée sur les besoins plutôt que les diagnostics (Tessier et Valade, 2017), mais il appert toujours difficile pour les enfants aux prises avec des troubles neurodéveloppementaux d'obtenir le support précoce nécessaire sans évaluation professionnelle (Institut national d'excellence en santé et en services sociaux [INESSS], 2021; Gouvernement du Québec, 2020). Dans les populations cliniques, l'absence de diagnostic peut entraîner une difficulté d'accès aux services d'intervention et l'obligation de soumettre inutilement l'enfant à plusieurs évaluations successives incluant la passation de tests standardisés. De plus, les résultats d'évaluation que rapporte l'orthophoniste

aux parents peuvent s'avérer difficiles à comprendre et occasionner de l'incertitude chez les proches de l'enfant. En l'absence de diagnostic, certaines mères rapportent de la détresse et de la difficulté à faire confiance à l'orthophoniste (Ash et al., 2020). De toute évidence, des études supplémentaires sont requises pour mieux renseigner la persistance des atteintes évaluées chez les enfants d'âge préscolaire.

Enjeux liés au deuxième critère : impacts sur le fonctionnement quotidien

Dans le DSM-5-TR (APA, 2022), la présence simultanée de symptômes et d'atteintes fonctionnelles est généralement nécessaire pour conclure à un diagnostic de trouble neurodéveloppemental, et ce depuis plusieurs années. Différentes politiques d'accès aux services exigent d'ailleurs que l'atteinte fonctionnelle de l'enfant soit démontrée, même en présence d'un diagnostic (Canino et al., 1999; Retraite Québec, n.d.). Ainsi, il est de plus en plus l'usage dans diverses disciplines d'évaluer systématiquement le niveau de fonctionnement de l'enfant. Les critères du TDL mis de l'avant par le consensus CATALISE et soutenus par l'Ordre des orthophonistes et audiologistes du Québec (OOAQ, 2021) s'inscrivent dans cette mouvance, en faisant ressortir la nécessité de documenter le fonctionnement de l'enfant dans sa vie quotidienne, notamment au point de vue des interactions sociales (Bishop et al., 2017). Même si la plus-value d'une évaluation de la participation sociale de l'enfant rencontrant des difficultés de langage était déjà discutée dans la littérature avant l'avènement des critères proposés par CATALISE, elle tarde toujours à s'implanter de façon systématique dans la pratique évaluative en orthophonie (McNeilly, 2018; McLeod et Threats, 2008; Thomas-Stonell et al., 2010; Washington, 2009). Pourtant, il est reconnu que la participation sociale a de nombreux bénéfices sur la santé physique et mentale, sur les apprentissages, la réussite scolaire et le devenir des personnes (Gilboa et Fuchs, 2018), et les bonnes pratiques exigent d'évaluer et d'intervenir en ce sens malgré les défis que cela suppose (OOAQ, 2021).

Le manque d'outils et de méthodes d'évaluation

Lors de la publication des critères d'évaluation du TDL, Bishop et ses collègues (2017) mentionnaient que leur application pouvait être compliquée par le manque d'outils fonctionnels disponibles pour évaluer les enfants rencontrant des difficultés langagières. Une recension des

outils employés pour évaluer les enfants d'âge préscolaire aux prises avec un problème de communication, de langage ou de parole a démontré que moins de 15% d'entre eux s'intéressaient à la participation, selon le cadre conceptuel de la CIF-EA (Cunningham et al., 2017). Des résultats similaires ont été constatés lors d'une revue des mesures d'évaluation employées auprès d'enfants multilingues, où seulement 9% des 175 méthodes recensées étaient liées à la participation (Wright Karem et al., 2019). Il appert donc que les orthophonistes utilisent peu d'outils développés pour évaluer les concepts liés à la participation. Ceci peut être causé par un manque d'outils disponibles, mais également par la méconnaissance des outils existants ou par une difficulté à les intégrer dans la pratique clinique, malgré les efforts de certains chercheurs (Croteau et al., 2015; Fougeyrollas et al., 2003; Michallet et Boudreault, 2014; Sylvestre et al., 2016; Thomas-Stonell et al., 2013; Washington, 2009). Étant donné l'intérêt récent des orthophonistes vis-à-vis de l'évaluation formelle des concepts pertinents au fonctionnement de l'enfant, il apparaît également plausible que des mesures existent dans d'autres disciplines, mais que la littérature et les terminologies différentes employées soient un frein à la connaissance des orthophonistes. Par exemple, un vaste corpus de littérature s'intéresse au domaine de la socialisation du jeune enfant avec ses pairs, notamment en psychologie. En effectuant une revue systématique de la littérature pairée avec une consultation d'experts du domaine, Humphrey et al. (2011) ont identifié 189 mesures s'intéressant aux habiletés sociales et émotionnelles des enfants et adolescents (0-18 ans). De même, plusieurs outils permettant au personnel éducateur ou aux parents de rapporter leurs observations en contexte pour évaluer la compétence sociale d'enfants d'âge préscolaire peuvent être retracés dans la littérature (voir McCabe et Altamura, 2011; Nader-Grasbois, 2012). C'est le cas du Profil Socio-Affectif de l'enfant (PSA; LaFreniere et al., 1997), un outil développé et standardisé au Québec avec de bonnes qualités psychométriques. Le PSA mesure la compétence sociale et l'adaptation de l'enfant de 30 mois à 76 mois, selon les observations colligées par le personnel éducateur ou enseignant. Bien qu'il ait fait l'objet de nombreuses traductions et validations à l'international et soit très reconnu en recherche, le PSA est un outil actuellement méconnu des orthophonistes. Considérant qu'il paraît exister des mesures pertinentes employées dans d'autres professions, une synthèse des données

disponibles dans différents domaines pourrait être utile au transfert des connaissances en orthophonie au préscolaire.

Le caractère transactionnel et contextuel de la participation

L'évaluation fonctionnelle et écologique dans les situations de la vie quotidienne demeure rarement systématique ou standardisée chez les enfants en trouble de langage, et ce à travers le monde (Deschryver, 2013). Or, puisque ce serait l'interaction des facteurs personnels, environnementaux et culturels qui contribue aux atteintes fonctionnelles que l'enfant expérimente (Rapee et al., 2012), apprécier le fonctionnement de l'enfant exige de mettre en place des pratiques évaluatives authentiques. Pour ce faire, il faut s'éloigner des tests standardisés administrés en contexte individuel, et envisager des mesures d'observation et d'entrevues qui proviennent idéalement de plusieurs informateurs (Goldstein et Naglieri, 2016). Pour l'orthophoniste qui rencontre l'enfant d'âge préscolaire en contexte d'évaluation individuelle, la quantité et la qualité du fonctionnement de l'enfant dans son quotidien doit être renseignée par d'autres sources d'information, en milieu familial mais également en milieu de garde ou d'éducation préscolaire (McNeilly, 2018). En effet, la participation de l'enfant ne s'actualise pas de la même façon dans ses différents milieux de vie. En contexte québécois, des parents d'enfants de moins de 6 ans avec difficultés développementales ont estimé que leur enfant participait presqu'aussi fréquemment et à autant d'activités en service de garde qu'à la maison, mais que la participation de l'enfant à la maison était plus fréquemment liée à des activités impliquant des écrans, alors que la participation en service de garde impliquait plus souvent des activités de socialisation avec les amis (Di Marino et al., 2018). Cette même étude a démontré que contrairement à la participation de l'enfant à la maison, le niveau d'implication de l'enfant dans les activités en service de garde était lié aux difficultés de l'enfant recensées par les parents (p.ex., difficultés à communiquer), ce qui serait explicable par la nature des activités d'apprentissage et de socialisation habituellement accomplies en service de garde (Di Marino et al., 2018).

L'emploi de mesures documentant les atteintes fonctionnelles est plus favorable à la détermination du plan d'intervention et des services que le serait une approche médicale basée sur les diagnostics (Klein et Kraus de Camargo, 2018). Cependant, il exige un changement de

paradigme évaluatif misant sur l'expertise des diverses personnes impliquées dans la vie de l'enfant pour favoriser l'appréciation du fonctionnement de l'enfant. Dans cette optique, les pratiques de collaboration interprofessionnelles sont considérées cruciales pour assurer la qualité du support offert aux enfants d'âge préscolaire, notamment ceux qui ont des besoins liés à la communication et au langage et qui fréquentent des milieux de garde et d'éducation inclusifs (Langner et Fukkink, 2022; McKean et al., 2017). Des moyens concrets pour soutenir l'évaluation concertée du fonctionnement du jeune enfant avec des difficultés langagières demeurent à développer.

Buts, objectifs et questions de recherche

Cette thèse doctorale est d'abord inspirée d'une question clinique : *Est-il possible pour l'orthophoniste d'optimiser l'évaluation du jeune enfant en se centrant moins sur ses déficits et davantage sur sa participation sociale, en collaboration avec la famille, le personnel éducateur et les autres intervenants impliqués*? Ainsi, le but principal du projet est d'éclairer la pratique d'évaluation orthophonique auprès d'enfants âgés de 2 à 5 ans aux prises avec un trouble développemental du langage (TDL), plus particulièrement celles et ceux qui fréquentent un service de garde éducatif à l'enfance (SGEE) ou une classe préscolaire et qui sont référés vers des services spécialisés. En considérant les critères d'évaluation du TDL (Bishop et al., 2017), la perspective des familles et la réalité des services offerts en petite enfance, ce projet souhaite plus précisément vérifier la pertinence et la faisabilité de consacrer moins de ressources à l'évaluation des déficits et plus de ressources à l'évaluation de la participation sociale durant la petite enfance. Pour y arriver, trois objectifs généraux ont été établis et visent à combler des lacunes identifiées dans les données probantes disponibles, en étudiant une large population clinique québécoise (objectifs 1 et 3) et la littérature interdisciplinaire (objectif 2).

Période de référence

La conception, la réalisation et la rédaction des trois études se sont déroulées entre 2018 et 2023, période durant laquelle la recherche et la clinique ont continué d'évoluer, permettant de nourrir la réflexion et d'enrichir le propos de cette thèse de façon itérative. Par ailleurs, les devis méthodologiques privilégiés dans cette thèse favorisent un regard rétrospectif sur les pratiques

et les connaissances, afin de mieux envisager la suite. Pour les études 1 et 3, la collecte de données s'est effectuée dans les dossiers cliniques d'enfants ayant consulté dans un milieu spécialisé préscolaire sur une période de dix ans, entre 2006 et 2016. Il importe donc de situer les données analysées dans le contexte clinique où elles ont été colligées à l'origine. Dans l'étude 2, la littérature interdisciplinaire examinée a également été circonscrite à une période de référence correspondant aux années précédant et suivant de près la publication du consensus CATALISE, entre 2014 et 2019. Les résultats obtenus doivent donc être interprétés en tenant compte des changements survenus depuis, et seront discutés en conséquence.

Population clinique étudiée

Les dossiers des enfants participants aux études rapportées aux chapitres 2 et 4 proviennent d'une clinique externe spécialisée en pédopsychiatrie, qui a fermé ses portes en 2016 à la suite de remaniements dans le réseau de la santé. Le mandat de cette clinique était d'offrir des services ambulatoires de 2e et de 3e ligne pour toute problématique présentée par un enfant de moins de six ans pour laquelle un médecin souhaitait obtenir une opinion psychiatrique. Lorsque le motif de consultation était lié à un trouble du spectre de l'autisme (TSA), les enfants étaient redirigés vers une autre clinique spécialisée, dédiée à cette clientèle. Sur référence médicale, les familles se présentaient à la clinique pour des motifs de consultation multiples, incluant des difficultés de comportement ou de socialisation, des inquiétudes liées au langage, des demandes d'évaluation d'un trouble spécifique ou diverses autres raisons. Ainsi, les enfants ayant des difficultés langagières consultant à cette clinique présentaient fréquemment des difficultés cooccurrentes formellement identifiées par l'équipe interdisciplinaire, tant sur les plans du comportement que de l'acquisition de la coordination, par exemple. Il n'est pas possible de savoir exactement où sont désormais desservis les enfants qui étaient auparavant dirigés à cette clinique externe en pédopsychiatrie. Entre 2006 et 2016, environ 660 enfants y ont été référés, avec un ratio de trois garçons pour une fille. Approximativement 80% des enfants fréquentaient un service de garde éducatif à l'enfance (SGEE) ou une classe préscolaire. Les caractéristiques sociodémographiques des familles consultant à la clinique représentaient la diversité linguistique et culturelle de la métropole où elle se trouvait. Ainsi, environ la moitié des enfants habitaient dans un foyer ou était parlée une autre langue que le français, et les mères avaient des niveaux de scolarité variés

(environ un tiers de niveau secondaire, un tiers ayant une formation technique ou professionnelle, et un tiers ayant une formation universitaire).

Un projet, trois études

Ce projet doctoral vise à clarifier (1) si la pratique courante de réévaluation des capacités langagières en petite enfance, qui exige d'importantes ressources, est justifiée et nécessaire pour s'assurer de la persistance des difficultés chez les enfants consultant en clinique spécialisée; (2) si les pratiques évaluatives en émergence consistant à mesurer le fonctionnement de l'enfant dans son quotidien peuvent être soutenues en colligeant les mesures déjà citées par la littérature interdisciplinaire s'intéressant aux enfants de deux à cinq ans et 3) si des pratiques évaluatives innovantes, collaboratives et s'inspirant d'une théorie d'évaluation hiérarchique de la compétence sociale peuvent être applicables à une population d'enfants consultant en clinique spécialisée, avec et sans difficultés langagières. Ainsi, par la succession des trois études du projet, une progression dans la réflexion ayant trait à l'optimisation des pratiques évaluatives est visée. Les objectifs propres à chaque étude, ayant fait l'objet de trois articles scientifiques distincts, sont énumérés ci-dessous.

Objectif 1

Le premier objectif est de vérifier la stabilité des atteintes langagières documentées en petite enfance par l'orthophoniste, dans un échantillon d'enfants référés en clinique spécialisée. À cette fin, l'étude décrite au chapitre 2 compare les résultats de deux évaluations orthophoniques complètes disponibles dans les dossiers cliniques de 172 enfants d'âge préscolaire référés dans un établissement psychiatrique ambulatoire canadien afin de répondre aux trois questions de recherche suivantes :

1) Quelle est la stabilité globale de la classification concernant le statut langagier (typique ou déficitaire) des enfants recherchant des services multidisciplinaires à l'âge préscolaire ?

2) Tel que constaté dans la population générale, la stabilité est-elle moins grande A) pour les enfants de moins de quatre ans que pour les enfants de quatre ou cinq ans et B) pour les enfants

présentant initialement des difficultés langagières légères par rapport au groupe présentant des difficultés langagières plus sévères, lors de leur première évaluation orthophonique ?

3) Sur une base exploratoire : Au-delà des facteurs d'âge et de sévérité, d'autres caractéristiques liées à l'enfant, à la famille ou au contexte évaluatif affectent-elles la stabilité ?

Objectif 2

Le deuxième objectif vise à recenser les méthodes d'évaluation de la participation pertinentes aux enfants de 2 à 5 ans, en s'intéressant particulièrement au domaine de la socialisation. Encourageant une perspective transdisciplinaire et fondée sur la recherche, la revue de la portée décrite au chapitre 3 se concentre sur la littérature publiée durant la période où les orthophonistes avaient à la fois établi la nécessité d'évaluer ces concepts et documenté la faible proportion d'outils utilisés à cette fin lors de l'évaluation des enfants d'âge préscolaire dans leur domaine (Bishop et al., 2017 ; Cunningham et al., 2017). Elle tente de répondre aux questions de recherche suivantes :

1) Dans la littérature publiée dans les domaines de la santé physique et mentale, du développement, de la réadaptation et de l'éducation à la petite enfance, quelles sont les mesures évaluant des concepts liés aux interactions sociales et au fonctionnement quotidien chez les enfants âgés de deux à cinq ans?

2) Comment les professionnels de la petite enfance, particulièrement les orthophonistes, peuvent optimiser leur processus d'évaluation en s'appuyant sur ces connaissances transdisciplinaires?

Objectif 3

Le troisième objectif vise à tester l'applicabilité d'un modèle novateur pour raffiner l'appréciation de la compétence sociale en SGEE ou en classe préscolaire, en collaboration avec le personnel éducateur et enseignant. Pour ce faire, l'étude rapportée au chapitre 4 veut vérifier si le modèle d'évaluation hiérarchique de la compétence sociale d'Ashton (2018) est soutenu empiriquement par les données recueillies auprès de deux groupes de jeunes enfants ayant consulté dans une clinique spécialisée ambulatoire (avec TDL vs sans TDL), pour lesquels le personnel éducateur ou enseignant a rempli le Profil Socio-Affectif de l'enfant (PSA; LaFreniere et al., 1997). Le modèle

d'Ashton (2018) propose de se centrer d'abord sur l'adaptation sociale de l'enfant dans son contexte de vie (se reflétant par la satisfaction de l'enfant, de ses pairs et des adultes dans l'interaction sociale), puis d'investiguer le fonctionnement social (se reflétant par les comportements de l'enfant dans l'interaction sociale) seulement si un problème est identifié. Les questions de recherche sont les suivantes :

1) En utilisant l'échelle de compétence sociale du PSA, peut-on identifier deux facteurs correspondant au fonctionnement social et à l'adaptation sociale? L'hypothèse est qu'un traitement statistique des items du PSA conduirait à ces deux facteurs, sans qu'aucun item ne se charge sur un autre facteur, corroborant ainsi le modèle hiérarchique d'Ashton.

Dans le cas où la première hypothèse est soutenue :

2) Tel que mesuré par le PSA, quelle proportion de l'adaptation sociale est expliquée par le fonctionnement social lorsque l'influence de l'âge, du sexe, du contexte éducatif, de l'environnement familial, de la motricité et des difficultés émotionnelles ou comportementales sont contrôlées? L'hypothèse, suivant le modèle d'Ashton, est que les deux facteurs sont hiérarchiquement liés et que l'adaptation sociale est mieux expliquée lorsque le fonctionnement social et d'autres caractéristiques personnelles et environnementales sont pris en compte.

Aucune hypothèse n'est faite quant à savoir si le modèle fonctionnera différemment entre les enfants des deux groupes cliniques, étant donné le manque de données antérieures comparant des sous-groupes d'enfants d'âge préscolaire cliniques.

Chapitre 2 – Stability of language difficulties among a clinical sample of preschoolers

Ce chapitre présente une étude s'intéressant à la stabilité des atteintes langagières pouvant être observée dans une population clinique d'enfants d'âge préscolaire ayant été référés vers des services spécialisés. Il s'intitule « Stability of language difficulties among a clinical sample of preschoolers » et est présenté sous la forme du manuscrit accepté par la revue *International Journal of Language and Communication Disorders*. Il a été publié en ligne en août 2022. Le matériel supplémentaire à l'article (*Supporting information*) se trouve en annexe de la thèse (Annexe 1).

Breault, C., Béliveau, M.J., Labelle, F., Valade, F., Trudeau, N. (2023). Stability of language difficulties among a clinical sample of preschoolers. *International Journal of Language & Communication Disorders, 58*(1), 138-153. https://doi.org/10.1111/1460-6984.12776.

Abstract

Background. There is some data calling into question the persistence of developmental language disorders (DLD) identified during the preschool period. For this reason, speech-language pathologists (SLPs) often reassess children. However, it is unclear if the instability of the profiles documented in community sample studies is present in children referred to specialized clinics. Given the scarcity of SLP resources, is re-evaluating the language skills of these children a good use of clinical time?

Aim. The aim of the study was to examine the stability of the findings from two SLP assessments in a sample of Canadian preschool children referred to a tertiary clinic between the ages of 2 and 6 years. It was hypothesized that children under the age of 4 at first assessment and children with less severe initial deficits would show less stability of DLD diagnosis.

Methods & Procedures. The clinical files of children referred to an early childhood psychiatric clinic in Canada were reviewed. For 149 children with two SLPs assessment reports, persistence of language deficits was documented and tested with McNemar's statistics. Differences between preschoolers under the age of 4 vs 4 and over, as well as between mildly and severely impaired children, were examined.

Outcomes & Results. High level of agreement (94%) and McNemar's test (p = .180) supported the stability of initial diagnosis. The stability for children assessed before the age of 4 (n = 64), was 100%, and was significantly different from older children's (n = 85) stability of 89% (Fisher's exact test, p = .01 (bilateral). The stability for children with mild impairments (n = 18) was 78%, which was significantly lower than the stability (97%) in children with severe impairments (n = 114) (Fisher's exact test, p = .007 (bilateral).

Conclusions & Implications. No instability of language status was observed in children assessed before 4 years of age, which could be related to the significant severity of the difficulties that children in this age group presented and be specific to this type of clinical sample. The great stability of language status observed in preschoolers referred to a specialized clinic suggests that clinicians should limit reassessments to devote available resources to intervention efforts.

What this paper adds

Previous research that has demonstrated important instability in the classification of language impairment before 4 years of age gathered data mainly by screening the general population or was not based on a comprehensive clinical assessment. This study investigated the classification stability of DLD between two comprehensive SLP assessments in a clinical sample of Canadian preschoolers. The results indicate great stability of language status assessed before 4 years old in this population, suggesting that severity of impairments may trump the age factor in this group. In the case of children referred to a specialized clinic, clinicians and policymakers should be aware that DLD diagnosis made before 4 years of age remains stable during preschool age, and that a best practice with this population would be to abandon unnecessary testing in favor of early intervention.

Introduction

Significant work has been done to define Developmental Language Disorder (DLD) and its diagnostic criteria. DLD, which affects 7.6% of preschoolers (Norbury et al., 2016), encompasses persons with persistent language difficulties impacting their everyday life. Those language problems have no known medical cause but can be concomitant with other difficulties and be co-morbid with other conditions (Bishop et al., 2017; Norbury et al., 2016; Thomas et al., 2019). The chances of recovery are low after age 5, research showing that children at the lower end of the language distribution do not "catch-up" even if they improve their own language capacities (Norbury et al., 2017; Tomblin et al., 2003; Conti-Ramsden et al., 2012; Thompson et al., 2015).

Although the primordial nature of early intervention to reduce the effects of DLD on quality of life, mental health, academic and occupational success is well documented (Beitchman, 2001; Conti-Ramsden et al., 2012), a gray area persists when it comes to diagnosing preschoolers. The CATALISE project (Bishop et al., 2017) and the Diagnostic and Statistical Manual of Mental Disorders (DSM–5; American Psychiatric Association [APA], 2013) highlight the lack of evidence supporting the persistence of language difficulties documented before ages of 4 or 5. Currently, experts agree that at 4 years old, language difficulties are more likely to persist when more language components are affected, and that the magnitude and initial severity of language impairments are important factors in the prediction of stability (Bishop & Edmundson, 1987; Clark et al, 2007; APA, 2013; Conti-Ramsden & Durkin, 2012).

This paper aims to verify the stability of language impairments in preschoolers referred to a specialized medical interdisciplinary team. Its purpose is to verify if stability differs when children are first assessed before or after the age of 4, and whether their stability differs when initial language difficulties are mild or severe.

Stability of language skills over the life course

There is substantial heterogeneity in language development among children but, overall, language skills appear to be a stable developmental component. According to Bornstein et al., "stability-instability concerns consistency in individual differences over time" (2014, p.1346). Even if the child progresses, language skills will be considered stable if they compare in the same

way to peers. Different indicators of stability are used in research, such as rank-order stability (i.e., similar rank in the distribution compared to same age peers) or stability of classification (i.e., same diagnostic category over time).

Bornstein et al. documented in large longitudinal studies robust long-term stability of core language skills from early childhood to adolescence (2014), even when controlling for biological and social risks factors (2016a) or when considering children with low or average-to-high language skills (2016b). These studies were conducted with European American and African American monolingual, English-speaking children, having diverse backgrounds. McKean et al. (2017) also showed stability of language capacities from 4 to 11 years old for 93.8% of 1279 children, among whom 5% had language impairments. Bornstein et al. (2018) evaluated long-term language stability in typically and atypically developing children (preterm, dyslexia, autism spectrum condition [ASC], hearing impairment). Although they reported medium-to-large stabilities between the age of 6 months to 15 years, considerable variability was found. Average stability controlled for covariates varied between .44 to .54 according to subsamples. The authors noted that even large stability coefficients leave room for change, a significant amount of variance remaining unexplained.

Instability of language impairments at preschool age

Preschool years are a period where stability appears lower at an individual level, and diagnostic classification of language impairments is an issue. Using structural model equations, Bornstein et al. (2016b) reported lower stability of core language skills between the age of 25 months and 5 years (r = .50), compared to 15 and 25 months (r = .65) and 5 and 11 years (r = .88). In children with typical and atypical development, Bornstein et al. (2018) also found smaller stabilities between the age of 3 and 7 years old (correlations from .23 for typical children to .53 for children with ASC), compared to stability within toddlerhood ($r \geq .68$ for year 1 to 2; $r \geq .54$ for year 2 to 3) or school age ($r \geq .51$ for year 7 to 8; $r \geq .50$ for year 8 to 9; $r \geq .64$ for year 9 to 13).

For children identified at or before 2 years old in community-level screening, vocabulary deficits are transient in about half of them (Rescorla, 2013), and parental reports do not distinguish children at risk for persistent difficulties from children with positive outcomes concerning

language ratings, parental concern, and professional services received at 3 and 4 years of age (Bishop et al., 2003). Recently, Matte-Landry et al. (2020) documented in a Québec community sample that less than half of the children with receptive and expressive vocabulary delay at 18 months still presented a vocabulary deficit at 5 years of age. Many studies concerning late-talkers have a methodology based on a vocabulary estimate or a parent-report only. However, using a single measure of a language component is considered inadequate to determine whether a preschooler has a language impairment or not (Conti-Ramsden and Durkin, 2012; Duff et al., 2015).

After toddler age, stability of language difficulties in community samples varied according to the studies. Depending on the samples, measurements and analyzes used, results are not directly comparable. Zambrana et al. (2014) identified language difficulties by parental report at 3 and 5 years old and reported a high level of stability of 88.5%. Presumably, this was driven by many children (*n* = 9052/10587; 85.5%) for whom parents reported no language issue at both time points, while 3.0% of the sample were impaired both at 3 and 5 years old (*n* = 318/10587). When only the children impaired at 3 were examined (*n* = 847/10587), 37.5% of them were still impaired at 5 (*n* = 318/847) but 62.5% were not (*n* = 529/847). Eadie et al. (2014) identified language difficulties by a standardized assessment, repeated at 4 and 5 years old. This high level of stability was also driven by many children (*n* = 772/945; 81.7%) who scored in the unimpaired range at both time points, while 7.7% of the sample were impaired both at 4 and 5 years old (*n* = 73/945). When only the children impaired at 4 were examined (*n* = 132/945), 55.3% of them were still impaired at 5 (*n* = 73/132) but 44.7% were not (*n* = 59/132). In another large community sample (NICHD study, *n* = 1364; LaParo et al., 2004) a similar rate of resolution was reported at 4 ½ years old for children identified with language difficulties at 3 (*n* = 33/73; 45%), based solely on tests results. However, in a study where 3 ½ year-olds were recruited based on parents' concern or family risk, Snowling et al. (2016) reported a stability of 78% of language impairments reassessed at 8 years old, using a -1 *SD* cut-off at a composite language measure tapping into expressive vocabulary, receptive and expressive grammar. With a more conservative cut-off of -1.5 *SD*, fewer children were identified at 3 ½, but all fulfilled this stricter criterion at 8 years old, suggesting that more severe and pervasive difficulties documented at preschool age highly increase the likelihood

of lasting language impairments. The scarcity and variability of evidence concerning stability of language impairments in preschoolers indicate a high need for more research on this pressing issue.

According to the studies cited above, stability seems greater when impairment is defined by multidimensional and standardized assessments and include parents' concern. SLPs are encouraged not to rely only on standardized measures or pre-established cut-off to identify a DLD, but to gather information about language capacities and functional performance for different components, from multiple sources and in different contexts (Eadie et al., 2014; Bishop et al., 2017). In their survey of SLPs in the UK, Thomas et al. (2019) also identified how much the approach to assessment is grounded in clinical experience. Research studying clinically identified preschoolers could inform us better about the stability of language impairments in this context and ensure that these children are adequately referred to the required services.

Stability in clinical samples

Unfortunately, data concerning the stability of language impairments identified in large clinical samples of preschoolers are even rarer, particularly under 4 years old. Others, like in the retrospective hospital-based cohort study of 129 very preterm infants by Woods et al. (2014), used assessment tools that were not language-specific and relied on criteria no longer recommended, such as documenting a verbal and performance IQ discrepancy.

In the SLP field, Bishop and Edmundson's (1987) seminal study of 87 children clinically identified as having phonological and/or language problems at 4 is still frequently cited to underline that only 56% showed persistent difficulties at 5 ½ years old. Again, it revealed that language impairments were more likely to persist in younger children showing deficits in language comprehension and in several expressive domains. Bishop and Edmundson (1987) quantified the SLP services received by children between their assessments but found no therapy effect on the prediction of persistence.

Current study

The current study was therefore designed to increase knowledge on DLD stability among clinical samples. For this purpose, the present study compared the results of two comprehensive SLP assessments available in the clinical records of 172 preschool children referred in a Canadian outpatient psychiatric facility to answer the following questions:

1) What is the overall stability of classification concerning the language status (typical or impaired) of children seeking multidisciplinary services at preschool age? Is there a pattern of improvement between SLP assessments?

2) In this clinical sample, as documented when screening the general population:

A) Is stability poorer for children under the age of four compared to children aged 4 or 5 on their first SLP assessment?

B) Is stability poorer for children with initially mild language impairment compared to the group with more severe language impairment on their first SLP assessment?

3) On an exploratory basis: Beyond age and severity factors, do other characteristics related to the child, family or evaluative context affect the stability?

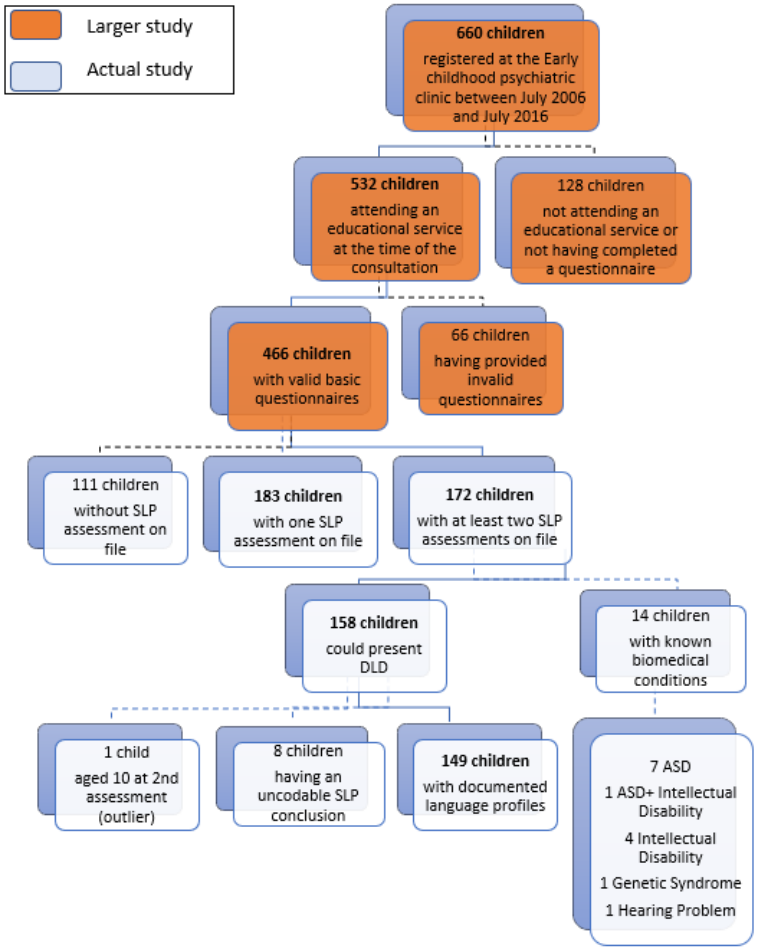
Method

Selection of participants

This study is part of a project describing French-speaking children who consulted at an early childhood psychiatric clinic in Montréal, Québec, Canada (approved by CIUSSS NIM Research Ethics Committee, number 2022-2240). Montréal is a cosmopolitan city where multilingualism is common. Only 50% of participants were French unilingual. Thirty-nine percent of them also heard another language at home, 10% lived in a trilingual environment and 1% heard four or five different languages. After French, the most common languages in bilingual families were English (28%), Caribbean Creole (25%), Arabic or Berber (18%) and Spanish (13%). This clinic was the main psychiatric resource for children under six in the region and received all referrals not primarily related to an ASC diagnosis. Reasons for consultation and symptomatology were complex and multidimensional but included language difficulties in most cases (Smolla et al., 2015). Between July 2006 and July 2016, 660 children were enrolled in the clinic, of which 532 were selected because they attended educational services at the time. After excluding 66 children because of

missing data, the clinical records of 466 children were reviewed by the first author and other trained students to locate SLP assessment reports. It was found that 172 children had two or more SLP reports on file. To remain consistent with CATALISE criteria of DLD (Bishop et al., 2017), 14 children of the 172 were removed because they had a biomedical condition mentioned in their psychiatric diagnoses (DSM-IV-TR and International Statistical Classification of Diseases and Related Health Problems 10th Revision (ICD-10); see flowchart in Figure 1). From the remaining 158 children, visualisation of data led to the exclusion of one outlier reassessed at 10 years old, while the second oldest was aged 7 (*M* = 63.2 months; *SD* = 12.9). Wide ranges of age at assessments remained observable, but this variability was controlled for in analyses. It was also necessary to exclude eight children for whom the SLP conclusions were impossible to code. The final sample therefore includes 149 children.

Article 1-Figure 1. Flowchart of participants



Extraction and codification of participants' characteristics

Language, clinical and socio-demographic characteristics were collected from the medical records and coded. Missing data about language information was handled as follows: as mentioned above, having an uncodable SLP conclusion was an exclusion criterion from the outset, so there were no missing data on the absence or presence of DLD. However, initial level of expressive severity was not available for 17 of 149 participants (11.4%), leading to their exclusion from stability analysis according to initial DLD severity. Similarly, the absence or presence of either a receptive or an expressive impairment was uncodable for 6 of 149 participants (4%), leading to their exclusion from additional analyses concerning instability of Receptive and Expressive deficits. The additional analyses were performed only with children for whom the necessary data were available, and the number of participants is mentioned below each results table in the Supporting information. There were no missing data regarding clinical or socio-demographic characteristics, except for three ''unknown'' maternal education (2%), as listed in Table 1.

SLP assessments

Verbatim records of each SLP's conclusion were extracted and coded for assessment 1 (A1) and assessment 2 (A2). Because no consensus about terminology existed between 2006-2016, especially for the preschool period, it was not possible to search for labels like DLD; some SLPs referred to delay, persistent difficulties, primary language disorder, or hypothesis of language disorder. Instead, an ordinal scale developed in a previous study (Smolla et al., 2018) was used to code the receptive (R) and expressive (E) deficits reported by the SLPs from 1 to 6; where 1 = within normal limits, 2 = mild deficit, 3 = mild to moderate deficit, 4 = moderate deficit, 5 = moderate to severe deficit and 6 = severe deficit. The 6-category diagnostic system captured most but not all the varieties in wording observed in the files; a code 99 was attributed when it did not. This rating scale showed an excellent interrater agreement within the complete sample of 172 children having two SLP reports (for expressive deficits: $\kappa = .84$, increased to .93 after discussion of problematic cases; for receptive deficits: $\kappa = .80$, increased to .94 after discussion of problematic cases). The cases to be discussed most often concerned heterogeneous difficulties. For example, when the SLPs listed in their conclusion several language components affected at different levels, a judge with no specific knowledge in the field then assigned the code 99, while

a judge being SLP herself then distinguished cases where real heterogeneity was reported from cases where the listed expressive or receptive components had the same level of impairment.

For the present study, we operationalized that regardless of the degree of severity, the presence of either a receptive or an expressive deficit would be a synonym of DLD upon CATALISE criteria, considering that we had excluded children with a biomedical disorder and that consulting in a specialized clinic testified to the presence of functional impacts. Levels of impairment already coded ordinally (1-6) were binary recoded, category 1 referring to no impairment and categories 2-6 referring to impairment for each component. When a code 99 was present, the first author (SLP herself) and the fourth author (doctoral psychology student) reviewed the SLP conclusions to verify if the absence or presence of impairment for each component were mentioned ($\kappa = .85$ before discussion, disagreements resolved by consensus). For example, a wording as ”This child has significant language difficulties currently affecting expression more than comprehension”, coded 99 since no level of severity was mentioned, was binary recoded as presence of impairment for both components. The language deficits were considered undetermined when the two components (R and E) were still dichotomously uncodable, which led to the exclusion of eight children. For six other children, the conclusion was partially codable (R or E), so they were included in the overall stability of classification analysis. Finally, although a DLD/No DLD binary system was privileged in the stability analyses, severity of language difficulties was also considered to create groups of participants with more or less initial difficulties. This was operationalized by grouping the six categories necessary to capture SLPs wording as: A) milder (score of 1 (within normal limits), 2 (mild deficit), or 3 (mild to moderate deficit)) or B) more severe (score of 4 (moderate deficit), 5 (moderate to severe deficit), or 6 (severe deficit)).

When more than two SLP reports were present in the child's file, those with the dates closest to the information provided by the family at referral were selected and age at each assessment was computed. To serve as control variables, the time interval between the first and the second assessment was calculated. The SLP's identity and work environment (health center, school, private clinic, or rehabilitation center) were also coded. Their work was regulated by the same professional College (Ordre des orthophonistes et audiologistes du Québec; OOAQ), and obligations existed regarding assessment and report-writing, guaranteeing a certain professional

uniformity despite these different backgrounds. SLPs conclusions were based on developmental history, clinical observations, informal and standardized assessments (e.g., Clinical Evaluation of Language Fundamentals, CELF; Wiig et al., 2004). In the present sample, most assessments included at least one standardized result (at A1: 107/149; at A2: 124/149), but SLPs frequently reported chosen subtests of different tools, versions, or home translations. This supported the choice to focus on clinically-given diagnoses in the present study. To strengthen the validity of clinical diagnoses, a median of all expressive language scores (coming from different tests and subtests) was calculated for each child, as well as a median of every result concerning receptive language scores, where applicable. A strong correlation was found between these composite scores and the level of receptive deficit mentioned in the SLP conclusion (A1: $r = -.755$, $p < .001$; A2: $r = -.802$, $p < .001$), while the correlation was lower with the level of expressive deficit (A1: $r = -.547$, $p < .001$; A2: $r = -.605$, $p < .001$). This seemed congruent with the fact that SLPs can observe and assess many components of expressive language that are not necessarily captured by standardized tests, such as pragmatics, or are often analyzed based on language samples, such as mean length of utterance, while they rely more on controlled and standardized assessment to make a judgment about the receptive capacities.

Psychiatric diagnoses

DSM-IV-TR and ICD-10 codes were reviewed by research professionals and grouped in categories. For the present study, four categories were retained; 1) relational and psychosocial problems (e.g., parent-child relational problems, neglectful parental conduct/educational problems or severe psychosocial problems), 2) behavioral disorders (e.g. oppositional defiant disorder (ODD), disruptive behavior disorder not otherwise specified or attention deficit hyperactivity disorder (ADHD), 3) developmental coordination disorder (DCD) and 4) anxious disorders (e.g., separation anxiety or anxiety not otherwise specified). Diagnoses were given by psychiatrists at the first consultation, and after complementary evaluations in other disciplines as occupational therapy, psychology, or speech-language pathology, if relevant.

Child's clinical pre-registration questionnaire (CPQ)

Filled in by parents at the time the child was referred to the early childhood psychiatric clinic, the CPQ contains general information, including the child's sex and birthdate, the mother's highest

level of education and the birthdates of siblings, computed to extract the child's rank in the family (see Table 1).

Preschool Child Behavior Checklist -Language Development Survey (CBCL 1½-5-LDS; Achenbach and Rescorla, 2000)

Completed at referral, the French version of CBCL-LDS was used to extract the parents' answer to the question "Is there another language (apart from French) that is spoken at home?". The child's linguistic context at home was coded as monolingual ("no" answer) or bi/multilingual ("yes" answer), knowing that all children were attending a French-speaking daycare or kindergarten in the Montreal area.

Analyses

First, to test the stability of DLD, the absence or presence of language impairment (whether receptive, expressive, or both) at first (A1) and at second assessment (A2) were compared for each child. Then, to verify if a significant pattern of DLD being identified at first but not at the second assessment could be established, McNemar's nonparametric test was used, given that normal distribution was not expected.

Second, chi-square tests of independence (or Fisher's exact test when assumptions were not met) were planned to verify if stability was statistically significantly different for A) children under or over the age of four at their first SLP assessment and B) children with milder versus more severe impairments for either receptive or expressive components. Bivariate analyses (chi-square tests, Fisher's exact tests or correlations) allowed to control for relevant variables regarding the child's personal (gender), family (rank of birth, bilingualism, mother's education) and assessment (delay between both assessments, difference in work environment, difference in SLP's identity) characteristics.

Finally, additional analyses tested if age and severity of initial deficits, along with socio-demographic and control variables listed above, were associated with the resolving of deficit in at least one language component (receptive or expressive; even in cases where DLD remained). Frequencies, group comparisons and examination of collinearity regarding age and severity are

presented in Supporting information, along with the results of a hierarchical logistic regression predicting this outcome. SPSS (version 24.0) was used for all statistical analyses.

Results

Characteristics of participants

Participant characteristics are presented in Table 1. Children were on average 51 months-old at their first assessment (Min-max = 25-77; *Mdn* = 49.93; *SD* = 10.64), and on average 63 months at their second assessment (Min-max = 31-94; *Mdn* = 62.60; *SD* = 12.86). Age group distribution at first and second assessment is presented in Table 1.

SLP assessments

Interval between first and second assessment averaged 373.52 days but was highly variable (Min-max = 23-1126; *Mdn* = 338; *SD* = 219.71). The time interval between assessments was not correlated with the age of children at first assessment, $r = -.011$, $p = .897$. However, as expected, time interval was significantly correlated with the age at second assessment, $r = .561$, $p < .001$, children who waited longer before their second assessment being older than those who were reassessed quickly. Assessments were performed by 124 different SLPs (82.6% of children had different SLPs at each assessment) working in health facilities, but also in private clinics and schools (53.7% of children were assessed in two different types of clinical settings).

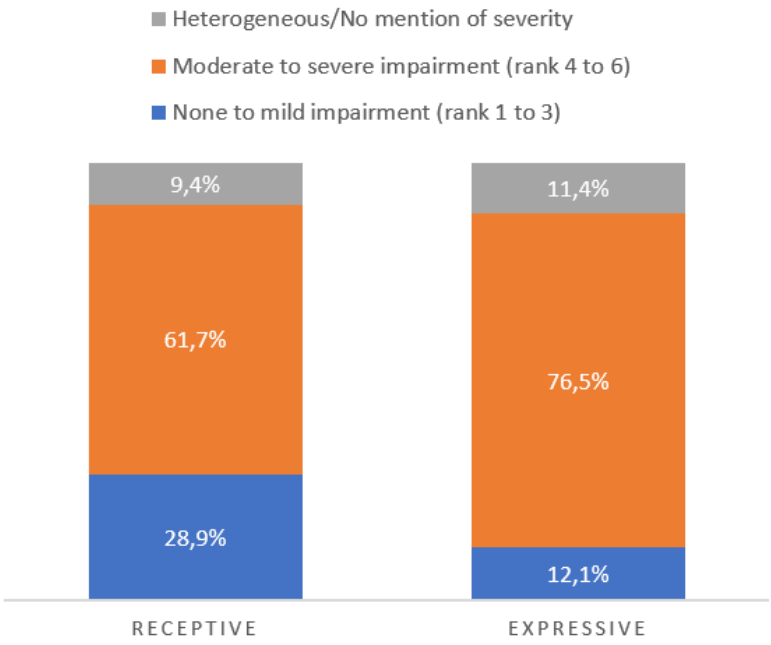
Language impairments were severe for most children. At first assessment, deficits were rated moderate to severe for 76.5% of children concerning expressive abilities and for 61.7% of children concerning receptive abilities (see Figure 2). Very few (2.7%) had expressive language within normal limits while it occurred for receptive language 16.8% of the time.

Article 1-Table 1. Participant characteristics (*N* = 149)

Characteristics	*n*	%
Personal		
Gender		
Boy	117	78.5
Girl	32	21.5
Age in years (A1/A2)		
2 to 3	11/1	7.4/0.7
3 to 4	53/13	35.6/8.7
4 to 5	52/55	34.9/36.9
5 to 6	27/42	18.1/28.2
6 to 7	6/30	4.0/20.1
7 to 8	0/8	0/5.4
Family		
Languages spoken at home		
French only	75	50.3
French and/or other (s)	74	49.7
Maternal education		
≤ high school	45	30.2
Professional or college education	52	34.9
University	49	32.9
Unknown	3	2.0
Rank in the family		
Only child	39	26.2
First child	42	28.2
Second child	46	30.9
Third child or more	22	14.8
Presence of clinical diagnosis		
Relational disorders or psychosocial problems	80	53.7
Developmental coordination disorder	123	82.6
Behavioral problems (including ADHD and ODD)	63	42.3
Anxiety disorder	13	8.7

Notes. A1 = First assessment, A2 = Second assessment, ADHD = Attention Deficit Hyperactivity disorder, ODD = Oppositional Defiant Disorder.

Article 1-Figure 2. Receptive and expressive impairment specified by SLPs at first assessment



Note. N=149.

Stability of classification

Overall, the language status stability between A1 and A2 was 94.0% (140/149). Only nine children had an unstable DLD status, with a deficit documented only at first or at second assessment according to the SLP conclusions (details shown in Table 2). McNemar's nonparametric test was not statistically significant, p = .180, meaning that no significant pattern of DLD disappearing or appearing between the first and the second assessment could be established.

Article 1-Table 2. Cross-tabulation of language status specified by SLPs at both assessments

		Language deficit at A2 (R or E)		Total
		Absent	Present	
Language deficit at A1 (R or E)	Absent	3	2	5
	Present	7	137	144
Total		10	139	149

Note. A1 = First assessment, A2 = Second assessment, R = Receptive, E = Expressive.

Are children less than 4 more prone to have an unstable DLD status?

The distribution of children younger than four (*n* = 64) or four or older (*n* = 85) at their first assessment by language status (stable or unstable) was compared to verify whether age moderated the level of stability of DLD status. Fisher's exact test (bilateral) was significant, *p* = .01. Contrary to what was hypothesized, instability was observed exclusively in children who were 4 years old or older at their first assessment (9/85; see Table 3).

Article 1-Table 3. Stability of language status according to age group at first assessment

	< 4 years-old		≥ 4 years-old		*p*
	N	%	*n*	%	
Unstable	0	0	9	6	.01
Stable	64	43	76	51	

Note. N = 149. Group comparison is conducted using Fisher-exact test.

Is initial DLD severity associated with stability of language status?

Fisher's exact test revealed a statistically significant difference, *p* = .007, between the group of children with less impaired expressive capacities (median age = 57.2 months; *SD* = 11.2) compared to the group more severely impaired at first assessment (median age = 47.3 months; *SD* = 10.7), the latter being more stable. Among the 132 children for whom the initial severity of expressive deficits was available, only 18 were in the less impaired group (see Table 4). No statistical difference was found according to initial receptive deficits, *p* = .11 (see Table 5).

Article 1-Table 4. Stability of language status according to the severity of initial expressive deficits

	Less impaired		More severely impaired		*p*
	N	*%*	*n*	*%*	
Unstable	4	3	3	2.3	.007
Stable	14	10.6	111	84.1	

Note. N = 132 because initial severity of expressive deficits was unavailable for 17 participants.

Group comparison is conducted using Fisher-exact test.

Article 1-Table 5. Stability of language status according to the severity of initial receptive deficits

	Less impaired		More severely impaired		*p*
	N	*%*	*n*	*%*	
Unstable	5	3.7	3	2.2	.11
Stable	38	28.1	89	65.9	

Note. N = 135 because initial severity of receptive deficits was unavailable for 14 participants.

Group comparison is conducted using Fisher-exact test.

Are characteristics of the sample affecting stability?

A chi-square test showed a strong relationship between the age category of children at first assessment and the category of initial severity of expressive impairment, $\chi^2(1) = 5.125$, $p = .024$, fc = .197. Less impaired children were overrepresented in the older children group (14/70) compared to the younger group (4/62), see Table 6. Tested with Fisher's exact test or Pearson correlation, no other characteristic showed a statistically significant relationship with the stability outcome in bivariate analyses, whether personal (gender), family (bilingualism, maternal education, rank of birth) or clinical (co-occurring DCD, behavioral condition, relational problems, anxiety disorder). No significant relation for the stability outcome was found with the interval between A1 and A2, change of SLP or clinical setting.

Article 1-Table 6. Cross-tabulation between child age and expressive impairment at first assessment

		Child age		Total	$\chi^2(1)$
		<4 years old	≥4 years old		
Expressive deficit	Less impaired	4	14	18	5.125*
	More severely impaired	58	56	114	
Total		62	70	132	

Note. N = 132 because initial severity of expressive deficits was unavailable for 17 participants.

*$p < .05$.

Considering that only a very small number of children changed their diagnostic category, it was decided to complete supplementary analyses to verify what instability was observed in at least one language component, either receptive or expressive (R or E). Those results are briefly presented here, for the 143 children for whom the necessary data were available.

Additional analyses: instability of Receptive and Expressive deficits

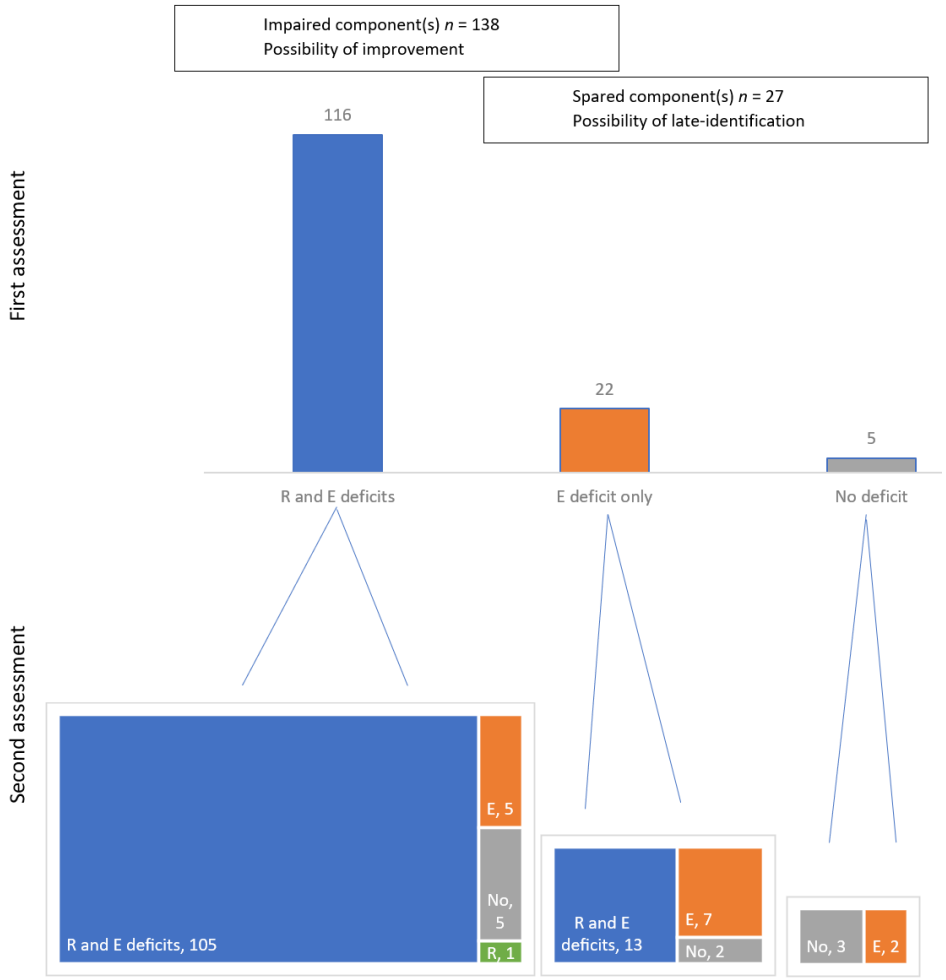
Of 143 children, 28 showed instability concerning their type of difficulties. Three initial language profiles emerged, with varying frequencies of instability, as shown in Figure 3. Most children (*n* = 116) presented receptive and expressive deficits at their first assessment. Among them, 90.5% (105/116) remained impaired in both components at their second assessment, while 9.5% (11/116) improved in at least one component. A small proportion of children (*n* = 22) presented expressive deficits only at their first assessment and showed a greater instability at their second assessment. Of those, only 31.8% (7/22) kept the same profile, while 9.1% (2/22) improved and 59.1% (13/22) had a late-identified receptive deficit. Finally, of the five children who had no initial language deficit, three (60%) were confirmed to perform within normal limits at the second assessment, while an expressive deficit was identified in the other two. Chi-square tests or Fisher's exact tests revealed no significant effect related to changes in SLP or clinical settings for none of these trajectories between A1 and A2. The data allowed a more in-depth look at the relative weight of factors influencing the disappearance of receptive or expressive deficit.

Factors related to disappearance of deficit in Receptive and Expressive outcomes

Among children who had at least one impaired component initially (R or E; *n* = 138), all except one child who experienced disappearing of receptive or expressive deficit (hereinafter called improvement) were in the older group (12/13), $\chi^2(1) = 8.042$, $p = .006$, fc = .241. While no significant difference was found based on level of receptive impairment (Fisher's exact test, $p = 1.000$), improvement was statistically significantly more likely to occur in children with less impaired expressive capacities at first assessment, as verified with Fisher's exact test, $p = .014$ (bilateral). No collinearity was observed between age and initial expressive severity categories ($\chi^2(1) = 2.582$, $p = .108$, fc = .144). Bivariate analyses (Pearson's correlations, Chi-square tests, or Fisher's exact test) showed no statistical significance between improvement outcome and

variables concerning context of assessment, the child, and family characteristics, except for a tendency ($p < .1$) observed for three of them. The delay between both assessments, $r = .143$, $p = .094$, the linguistic context at home, $\chi^2(1) = 3.728$, $p = .053$, and the presence or absence of relational disorders and psychosocial problems, $\chi^2(1) = 2.821$, $p = .093$, were included in the hierarchical regression because they were trending to significance (more details in Supporting information).

Article 1-Figure 3. Description of receptive and expressive deficits at the second assessment based on the deficits documented at the first assessment, possibility of improvement and possibility of late identification of at least one language component



Notes. $N = 143$ because absence or presence of deficits for all components were not available for 6 participants. R = Receptive deficit, E = Expressive deficit, No = Within Normal limits.

Hierarchical regression. Logistical hierarchical analyses were run to verify if the severity and age factors predicted improvement beyond assessment and socio-family factors. Severity and age were introduced separately to verify if one of the two factors of interest predicted the improvement outcome better, beyond the other. Because the 13 children for whom initial level of expressive severity was not specified were excluded, including 3 children with an improvement outcome, only 125 children were included in the regression analysis. A cut-off point was established according to the proportion of improvement in the sample (10/125; 0.92). First, the delay between both assessments was introduced as a control variable, then the linguistic context at home and the presence or absence of relational disorders and psychosocial problems. Results showed that 15.7% of the variance of improvement outcome was predicted by the three factors, as estimated by Nagelkerke's R^2, even if none were significant on their own. Subsequently, the expressive severity factor was introduced, showing that children with less severe expressive deficit were nine times more likely to improve than those with more severe deficit, $B = 9.02$, $W = 7.07$, $p = .008$, Nagelkerke's $R^2 = .271$. Finally, adding the children's age to the severity factor explained 6.1% more of variance of improvement outcome (Nagelkerke's R^2 increased from .271 to .340). When both severity and age were considered together, children with less severe expressive deficit were six times more likely to improve than those with more severe deficit, $B = 6.45$, $W = 4.73$, $p = .030$, and the older children were more likely to improve than those who were younger, considering the statistical trend, $B = 6.72$, $W = 2.98$, $p = .085$. Detailed results of the logistic hierarchical regression are available in Table 6 of Supporting information.

Discussion

This study aimed to verify the stability of classification concerning the language status of 149 preschoolers without a known biomedical condition, who visited a specialized clinic over a 10-year period. It also examined whether there was a pattern of diagnostic disappearance or not in this population and verified the possible impact of age and initial severity of deficits on instability of DLD. To consider other characteristics related to the child, family, or evaluative context, the partial instability of receptive or expressive language component(s) was finally examined.

High stability of classification

Results showed stability of language classification in 94.0% of children, which is considerably greater than the stability found in children identified in community-level screening (Eadie et al., 2014; LaParo et al., 2004), while Snowling et al (2016) found a stability of 78% in a sample selected according to family risk and parental concern. Webster et al. (2004) also found a high stability rate of 84% in children referred to a specialized clinic and reassessed at school age, on average 4 years after the first diagnosis of DLD. Our study did not allow us to measure such long-term stability. Moreover, most of our sample (83%) had a receptive deficit, which is a known factor of persistence (APA, 2013; Clark et al., 2007; La Paro et al., 2004). Given the severity ratings and high involvement of receptive difficulties, the very high level of stability found in the present study supports previous findings. However, given the complex presentation of the children in this study, caution should be exercised in assuming that stability would be as high for a broader group of preschoolers with DLD. Even if there were a few more children who did not maintain DLD status (*n* = 7) than children who were later diagnosed with DLD (*n* = 2), no significant overall pattern of disappearance or appearance between the first and second assessment was found.

Severity trumps age to predict stability

Contrary to what was expected, none of the 64 children under 4 years of age at the first assessment showed instability of classification, while 9 of the 85 children aged 4 or over showed instability (10.6%). This contradicts the instability of language profiles documented among children under three identified in the general population (Hawa & Spanoudis, 2013). In contrast, this is consistent with previous literature indicating that more severe and widespread are the difficulties, more stable they are over time (Bishop & Edmundson, 1987). In this sense, our results confirmed that children with less impaired expressive abilities were more present in the older group (20.0%, 14/70) than in the younger (6.5%, 4/62), and that less severity of expressive deficits was associated with more instability, in comparison with children having greater severity of expressive deficits. Thus, the present study confers evidence for stability of DLD from a larger clinical sample than in previous studies. In a clinical setting, the clearer the extent of language difficulties is in the initial assessment, the more their persistence is expected, regardless of the child's age. It is important to document this, knowing that neither CATALISE nor the DSM-5

commented clearly on the possibility of identifying a DLD before the age of 4 years. The stability documented in the present study resonates with the consistency observed among clinicians reporting criteria for DLD, demonstrating that ease of diagnosis is based on a holistic assessment of the child, beyond the limitations of standardized tools (Thomas et al., 2019).

Partial stability of receptive and expressive components

Even though only 6% of the preschoolers changed DLD status, almost 20% (*n* = 28/143) had an instability in their receptive or expressive language component, which went from impaired to unimpaired (improved; 13/28) or from unimpaired to impaired (deteriorated; 15/28). In our sample, the profile of initial receptive and expressive deficits was predominant (78% of children) and much more stable than the profile of initial expressive deficit only. Few children had solely an initial expressive deficit identified, and among them, the second assessment identified a receptive deficit for the vast majority. More research is needed to investigate if those apparent late-emerging receptive difficulties are observed in other samples and what this could be related to.

Factors associated with the disappearance of the receptive or the expressive deficit (improvement) were examined by a hierarchical logistic regression. Of the 125 children with complete data for whom improvement was possible, only ten did. Results revealed that children more likely to improve had less impaired initial expressive capacities. Even in bivariate analyses, other variables such as assessment context (change of SLP or clinical setting), familial factors (rank in the family) and the child's clinical characteristics (diagnoses of developmental coordination disorder, disruptive problems or anxious problems) were not significantly predictive of the likelihood of improvement. The lack of significant gender effects should be interpreted with caution and should be verified in future studies, knowing that there were only 30 girls for 108 boys in this sample. A tendency was observed for the delay between both assessments and the diagnosis of relational/educational problems (p = .093 and p = .094, respectively), and the linguistic context approached significance (p = .053). Further studies should include these factors to test whether these associations hold.

In sum, our results show strong support for persistence of overall DLD classification, which includes longitudinal variation of children's specific profiles of difficulties. The greater stability obtained in a sample of preschoolers seeking services for language difficulties characterised as severe and pervasive is congruent with previous studies (Snowling et al., 2016; Bishop & Edmundson, 1987).

Strengths and limitations of the present study

Previous studies reporting on clinical children relied on much smaller samples, therefore rendering the CATALISE consensus and DSM-5 very cautious in diagnostic recommendations for children younger than 4 years of age. Moreover, results from the present study are likely to be generalizable to the clinical decisions of SLPs in everyday practice. Notably, the present sample is solely comprised of children seen by professionals and referred to specialized early childhood services, who generally show complex clinical profiles (Efron & Sciberras, 2010; Kim et al., 2016; Wilens et al., 2002). The children in our sample had all been assessed by a psychiatrist, which objectified a significant presence of educative and relational difficulties in the families who consulted. It is difficult to know to what extent these difficulties exist in DLD children consulting in other settings, since this information is not systematically reported by SLPs, even if co-occurrence of emotional and behavioral disorders and DLD is well known (Chow & Wehby, 2016).

Another strength is the high ecological validity of the language status classification in this study. DLD status was based on a holistic clinical judgment, including but not relying exclusively on test scores. Overall, the assessment process and SLP reports included many consistent aspects, including both the developmental and functional history of the child, the use of clinical observations and standardized tests to arrive at a conclusion detailing the levels of receptive and expressive language impairment. The most widely used formal tests were similar to those used in other studies (e.g. CELF by Eadie et al., 2014). It was observed in this French-Canadian study that the type and the number of standardized tests and subtests were somehow different from one assessment to another, which seemed driven by clinical reasons and can be related to what was reported by SLPs in the UK (Thomas et al., 2019). Knowing that low test scores alone may not reflect clinical reality, this could have affected stability rates in previous studies investigating

language disorders persistence among preschoolers (see discussion in Charest et al., 2019). The high rate of stability found here is even more impressive considering that conclusions were provided by more than one hundred different SLPs working in different clinical settings.

Nonetheless, a methodology based on extraction of data from medical records has several limitations. Since the reports consulted were written between 2006 and 2016, the assessment methods and terminology used by SLPs were far from being harmonized as prospective research could have allowed. The codification of the evaluation yielded strong interrater reliability, but replication of this study could verify if the publication of the CATALISE consensus (Bishop et al., 2017) about DLD terminology improves the diagnosis stability. The extraction of clinical data also resulted in a highly variable interval between assessments, but it was not significantly associated with a change in the level of language deficit.

It is a serious shortcoming in this study that the therapy received by children could not be controlled for, because it was not systematically described on files. It was judged problematic to extract information about the amount and the content of the therapies offered. Typically, children consulting at this clinic were offered four to eight intervention sessions with a SLP in the presence of their parents, and the targeted therapeutic objectives were an enhancement of functional communication through a better understanding of the child's difficulties. Some children obtained these services while waiting for intervention from the rehabilitation center, while other received intervention services or obtained a few interventions in private or public settings before being referred, which were not retrievable on file, rendering impossible to document reliably and control for interventions received. This challenge seems widespread in stability research, considering that we only found therapy accounted in Bishop and Edmundson's (1987) seminal study. While several authors examined and controlled for the influence of child and familial characteristics as gender, age, birth weight, nonverbal ability, parental education, SES, languages, and family home environment on language trajectories (Bornstein et al., 2016; LaParo et al., 2004; Matte-Landry et al., 2020; Snowling et al., 2016; Woods et al., 2014; Zambrana et al., 2014) few documented if children were referred or had access to SLP intervention (Norbury et al., 2017; Tomblin, 2003, Zambrana et al., 2014). LaParo et al. (2004) explicitly identified the impossibility to do so as a limitation and others discussed the access to services as a non-

controlled factor having a possible influence on language trajectories (Conti-Ramsden et al., 2012; Eadie et al., 2014). It is a challenge to find studies that look at trajectories in the absence of intervention, even if it would be highly useful to get a real sense of the stability of language difficulties. More research is needed to disentangle the causes of the stability observed.

Given the very few children who did not maintain DLD status, it was not possible to analyse characteristics associated with instability. Also, a comparison group of preschoolers referred to another type of clinic (i.e., community or private) would make the results more robust. The social and linguistic characteristics of our sample reflect the profile of children from a Canadian cosmopolitan city, and replications could verify whether result from this study are culturally specific or not.

Clinical implications

Considering the 94% stability of language status classification found in the present study, general recommendations should be made to reduce reassessments of identified children and devote the limited available speech-language pathology resources to intervention. If reassessments are to be done, they should be conducted with specific aims, not only to confirm DLD status because the child was younger than 4 or 5 at first assessment. For example, an interdisciplinary evaluation can be an efficient way to identify comorbidities and help the family and partners understand the needs and strengths of a child, leading to a more early and well-targeted intervention (Efron & Sciberras, 2010). In this sense, some reassessments may be justified by an interprofessional model of practice aimed at a global understanding of the child's profile (Liu et al., 2018). In other cases, a therapeutic model of response to the intervention, where the evaluation is followed by a period of learning and concludes with a reassessment, could be considered (Roddam et al., 2020). More SLP resources devoted to intervention efforts within the preschool period could lead to a better understanding of the evolution of children with DLD when sufficient and efficient therapy is provided early.

Conclusion

Currently, based on available guidelines, lack of studies and divergent results, early childhood specialists are still reluctant to diagnose DLD before 4 years. The present study was able to confirm an overwhelmingly high stability rate of DLD when identified among a clinical population, in convergence with previous studies conducted with referred preschoolers. Clinicians and policymakers need to be aware of this situation to provide intervention to these children as early as possible, when brain plasticity is greater, and long-term impacts of DLD on their academic and social development are more likely to be reduced.

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Chapitre 3 – How to Assess the Everyday and Social Functioning of 2 to 5-Year-Olds? An Overarching Scoping Review

Ce chapitre présente une revue systématique de la littérature de type « revue de la portée », qui recense les outils et méthodes d'évaluation s'intéressant aux concepts liés à la participation, au fonctionnement et à la compétence sociale des enfants de 2 à 5 ans cités dans la littérature interdisciplinaire entre 2014 et 2019. Il s'intitule « How to assess the everyday and social functioning of 2 to 5-year-olds? An overarching scoping review » et est présenté sous la forme du manuscrit soumis. Les références citées dans l'article se trouvent à la fin du présent chapitre. Le matériel supplémentaire à l'article (*Supplemental material*) se trouve en annexe de la thèse (Annexe 2).

Breault, C., Béliveau, M.J., Dionne, M., Bergeron, S., Trudeau, N. (soumis). How to assess the everyday and social functioning of 2 to 5-year-olds? An overarching scoping review.

Abstract

This scoping review aimed to identify measures assessing everyday functioning and social interactions in children aged 2 to 5. Following PRISMA guidelines, relevant studies published over a 5-year period were identified and selected, using a transdiagnostic approach. 480 publications from 37 countries were analyzed. Among 651 mentions, 186 different measures were identified, of which only 34 were cited more than three times. To assess participation in young children, the alignment of concepts and their operationalization seems a challenge across the early childhood professions. Results highlight the difficulty of transitioning from unidisciplinary, diagnosis-focused approaches to child-and-family-centered practices.

Keywords: Assessment, Measures, Preschoolers, Functioning, Social interactions, Participation

Introduction

According to the International Classification of Functioning, Disability, and Health (Children and Youth version; ICF-CY), *'Participation is defined as a person's "involvement in a life situation" and represents the societal perspective of functioning'* (International Classification of Functioning, Disability, and Health-Children and Youth version ICF-CY; World Health Organization, 2007, p.xvi). Among children with disabilities, greater participation is a key indicator of inclusion and is associated with better developmental, physical, and mental outcomes (Benjamin et al., 2017; Maxwell et al., 2018). Participation is the product of a multi-directional interaction between personal and environmental factors, reflecting that human development is holistic, particularly in early childhood. A restriction in participation, also called functional impairment, could be more important than any diagnosis or symptom, as success in daily activities and expected social roles is critical to a person's quality of life (Goldstein & Naglieri, 2016). Social inclusion and independence are the ultimate outcomes desired by parents for their children facing developmental challenges, like children with communication needs, while the goals expressed by children themselves vary from individual to individual and are rarely the same as their parents' (Jasmin et al., 2018; Jensen de Lopez et al., 2021; Roulstone et al., 2012; Singer et al., 2020). Thus, supporting participation in daily life should be the primary goal of professionals as well as society at large (Goldstein & Naglieri, 2016; Sylvestre et al., 2016).

The idea of assessing participation is not new but has attracted growing interest in the medical, mental health, and educational literature in recent decades. For example, the clinician's judgment of a person's overall functioning in daily life was incorporated into the psychological and psychiatric diagnostic process nearly thirty years ago, via Axis V of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV; APA, 1994), then variably applied over time. With the publication of the International Classification of Functioning, Disability, and Health (ICF; World Health Organization, 2001), the importance of not only considering the person's disabilities but focusing on functioning in context spread to other rehabilitation disciplines, such as speech-language pathology (SLP; Cunningham et al., 2017).

Despite this, several early childhood professionals still struggle to embrace a paradigm focusing on functioning and participation rather than incapacities, symptoms, or diagnoses. One reason may be that although health professionals are increasingly aware of the importance of considering an individual's social participation, formally assessing it is relatively new in some disciplines. For example, speech-language pathologists (SLPs) assessing young children with language disorders classically focused on measuring language capacities rather than their impact on life situations (Gomersall et al., 2015; McLeod & Threats, 2009, Washington, 2009). A decade after the implementation of the ICF-CY, Cunningham and colleagues (2017) reviewed the literature for assessment methods used in SLP to report outcomes for preschool children with communication disorders, distinguishing between tools that focus on body function, activities, and participation (WHO, 2007). Their scoping review revealed a lack of measures that focus on the child's participation in daily life (less than 15% of tools reported by SLPs), as well as the paucity of literature in the SLP discipline regarding the effects of the intervention on the child's life (Cunningham et al., 2017). Another reason hindering the assessment of functioning may be the difficulty of approaching this complex construct from a unidisciplinary perspective. The CATALISE consortium, an interdisciplinary consensus of experts who established new criteria for the diagnosis of developmental language disorder, specifically called for a change in practice by including as criteria documenting children's persistent *difficulty producing or understanding language that affects everyday functioning, with a significant impact on everyday social interactions or educational progress* (Bishop et al., 2017, Figure 1 and p.3). At that moment, Bishop and her colleagues (2017) postulated that a significant challenge was that there were "few valid assessments of functional language" (Bishop et al., 2017, p.1076).

The increasingly popular transdiagnostic approach encourages to find evidence related to the functional assessment of various children, independently of the presence of a specific diagnosis (Astle et al., 2022; Bolte, 2023; Boulton et al., 2021). In children suspected to present neurodevelopmental disorders, it is more and more demonstrated that adequate services provision could better be served by assessing and addressing their needs (e.g., social interaction and educative achievement) rather than categorizing and providing diagnosis-based services (Rivard et al., 2023). Moreover, "transdiagnostic characteristics are more likely to reflect

everyday life experiences" (Astle et al., 2022, p.398). Everyday functioning, participation, and social interactions are not discipline-specific concepts and have been put forward for decades in various fields. Nevertheless, cross-domain knowledge transfer can be a significant challenge, notably because of unidisciplinary, diagnosis-centered practices, the plurality of related concepts and the constant evolution of their definitions. Unfortunately, this could mislead many early childhood professionals to be unaware that several methods have already been developed to assess the functional impacts in children's daily lives of various developmental, behavioral, or social-emotional problems. For example, more than 20 years ago, a dozen available measures of functional impairment for preschoolers or school-age children for which psychometric data were available were critically reviewed in relation to mental health assessment (Canino et al., 1999). Associated to the vastly studied domain of social competence, a systematic review of "measures of social and emotional skills" in children and young people documented a total of 189 different measures available in English (Humphrey et al., 2011). To assess participation, a scoping review charted 118 measures used among children aged 0-18 years living with a permanent impairment or developmental disability (Adair et al., 2018). To our knowledge, however, early childhood professionals have not had access to transdisciplinary and transdiagnostic reviews interested in assessing the functioning of children under five years of age. There is an urgent need to decompartmentalize fields of knowledge to act more effectively and improve the assessment of children's everyday functioning and social interactions, particularly in early childhood.

Therefore, this systematic review aimed at informing the evaluation of young children's participation, from a transdiagnostic perspective. It was initiated by a SLP, wishing to access existing interdisciplinary knowledge on the functional assessment of young children, published around the period of the CATALISE consensus and the preschool SLP assessment tools review (Bishop et al., 2017; Cunningham et al., 2017).

At preschool age, participation can be observed through the child's daily functioning in meaningful activities. In addition, prior to school entry, engagement in social interactions is a critical area of participation. In the current review, assessment methods interested in the concepts of social interactions and everyday functioning were targeted, consistent with the definition of functional impacts provided to SLPs by Bishop et al. (2017). It was operationalized

that a concept related to social interactions would refer to "the child's effectiveness in initiating and maintaining interpersonal relationships related to communication in his or her daily life, outside the home", and that a concept related to everyday functioning would refer to participation as defined by the World Health Organization's ICF-CY, that is a person's *"involvement in a life situation"* (WHO, 2007; p.xvi). It was also clarified a priori that "life situations are characterized by sets of organized sequences of activities directed toward a personally or socially meaningful goal" (Coster & Khetani, 2008). The aims of this review were to 1) draw on the literature in physical health, mental health, developmental, and educational fields, 2) identify a wide range of assessment methods used with children aged five and under, and 3) discuss how early childhood professionals can optimize their assessment process based on this transdisciplinary knowledge, particularly SLPs. The scoping review was the preferred approach to achieve the goals of this project, as it allows for coverage of a broad research object across large and varied bodies of literature, as well as exploration of its conceptualization (Mazaniello-Chézol & Corbière, 2020).

Methods

The suggested steps for performing a scoping review were followed: 1) identification of the research question, which should be explicitly related to the purpose of the review; 2) identification of relevant studies; 3) selection of studies, carried out as a team; 4) presentation of the data, by table or by text; and 5) synthesis of findings, identifying their implications for policy, practice or research (Arksey and O'Malley, 2005; Khalil et al., 2016; Tricco et al., 2016; Tricco et al., 2018). No registration of the review protocol was made. A working committee including all authors of this manuscript was formed at the outset of this review and consulted at several key points in the process. Members were professors, graduate students, and one undergraduate student in neurosciences, speech-language pathology, and psychology, with professional experiences in psychiatric and preschool settings.

Identification of the research question

The initial research question identified was: *What measures are reported in interdisciplinary literature to assess concepts related to "significant impact on everyday functioning or social*

interactions" in children aged two to five years? This question was developed to reflect a SLP's assessment needs according to the developmental language disorder definition (Bishop et al., 2017), which would embrace a transdiagnostic approach. To expand the search across disciplines (e.g., medicine, SLP, occupational therapy, nursing, psychology, psychoeducation, educational sciences), terms and keywords were developed to match concepts represented in the physical and mental health, developmental, and educational literature.

Identification of relevant studies

A university librarian supported the study selection methodology. As suggested by Khalil et al. (2016), a limited search was first conducted in one database (MEDLINE) with an initial set of keywords, followed by the selection of words contained in the titles, abstracts, and full texts found. In January 2019, relevant studies were identified in four databases, with revised keywords (Table 1): MEDLINE (health), CINAHL (rehabilitation/paramedicine), PsycINFO (psychology/social science) and ERIC (education). The search strategy was established according to the main inclusion criteria, namely 1) language: English or French; 2) age: 2:0 to 5:11 years old; 3) mention of a measurement instrument or method applicable to a child; 4) focusing on a concept related to "social interactions" or "everyday functioning" (as described above). Given the aims and the resources available to this literature review, the search was narrowed to articles published over five years (January 2014- January 2019), around the period of the CATALISE consensus and the preschool SLP assessment tools review (Bishop et al., 2017; Cunningham et al., 2017). No restrictions regarding the type of literature were set a priori.

Article 2-Table 1. Search strategies in the four databases (period restriction: January 2014 – January 2019)

SEARCH CRITERIA
MEDLINE
1. exp Social Participation/ or exp Interpersonal Relations/ or exp "Activities of Daily Living"/
2. exp Adaptation, Psychological/
3. exp Social Behavior/
4. 1 or 2 or 3
5. exp Disability Evaluation/
6. exp "Patient outcome Assessment"/
7. 5 or 6

8. 4 and 7
9. ((functioning or functional outcome* or (social not social determinant*) or adaptat* or participation) adj3 (assess* or evaluat* or measure*)).ab,kf,kw,ti.
10. 8 or 9
11. limit 10 to ("preschool child (2 to 5 years)" and (english or french))

PSYCINFO

Results for (Keywords: functioning OR Keywords: "functional outcome*" OR Keywords: social OR Keywords: adaptat* OR Keywords: participation) NEAR/3 (Keywords: assess* OR Keywords: evaluat* OR Keywords: measure*)OR (Abstract: functioning OR Abstract: "functional outcome*" OR Abstract: social OR Abstract: adaptat* ORAbstract: participation) NEAR/3 (Abstract: assess* ORAbstract: evaluat* OR Abstract: measure*) AND Language: french OR Language: english AND Age Group: Preschool Age (2-5 yrs) AND Document Type: Journal Article

SEARCH CRITERIA

CINAHL

S14. S11 OR S12 Restriction operators- Age group: Child, Preschool: 2-5 years; Language: English, French
S13. S11 OR S12
S12. TI ((functioning or functional outcome* or (social not "social determinant*") or adaptat* or participation) N3 (assess* or evaluat* or measure*)) OR AB (functioning or functional outcome* or (social not "social determinant*") or adaptat* or participation) N3 (assess* or evaluat* or measure*)) OR SU ((functioning or functional outcome* or (social not "social determinant*") or adaptat* or participation) N3 (assess* or evaluat* or measure*))
S11. S6 AND S10
S10. S7 OR S8 OR S9
S9. (MH "Patient Assessment+")
S8. (MH "Outcome Assessment")
S7. (MH "Disability Evaluation+")
S6. S1 OR S2 OR S3 OR S4 OR S5
S5. (MH "Social Behavior+")
S4. (MH "Adaptation, Psychological+")
S3. (MH "Activities of Daily Living+")
S2. (MH "Interpersonal Relations+")
S1. (MH "Social Participation")

ERIC

((functioning OR "functional outcome*" OR social OR adaptat* OR participation) NEAR/3 (assess* OR evaluat* OR measure*)) AND la.exact("English" OR "French") AND lv("kindergarten" OR "preschool education")

Selection of studies

After the exclusion of duplicates, a title and abstract screening was conducted (phase 1), followed by a full-text review of the citations included (phase 2).

Phase 1: Title and abstract screening

Citations were imported in an Endnote library. All titles and abstracts were screened according to the four inclusion criteria established a priori and listed in the previous section. To ensure reliability, all titles and abstracts were screened by the first author while the same library was split among five other raters, which were familiarized with inclusion criteria and conducted training exercises before commencing screening. Except for six titles and abstracts used in the familiarization of the criteria, a proportionate agreement (Miles and Huberman, 1994) was calculated for all the citations. An interrater agreement of 75% was sought a priori (Tricco et al., 2016). The proportionate agreement was calculated over the total of ratings, between Rater A (first author) and Rater B (any other rater) and detailed for each rater. All disagreements were resolved by consensus.

Phase 2: Full-text Review

Full texts of the citations included were imported into the Covidence software and reviewed upon the same inclusion criteria. According to the methodology of a scoping review that foresees a protocol elaborated a priori, but also an iterative approach (Mazaniello-Chézol & Corbière, 2020), two exclusion criteria were added at the beginning of phase 2. It was decided 1) to exclude the few book chapters and dissertations from the full-text screening and 2) to exclude papers when the assessment method cited in the full-text was either not published, detailed in the study or accessible through a reference.

To ensure reliability, each full-text was reviewed by the first author and another person. In addition to the first author, six different raters were involved in this phase, but four of them rated few full-texts. All raters were familiarized with the inclusion and exclusion criteria through a series of exercises. In addition to the first author, only one rater in the full-text review had already participated in the title and abstract screening. The proportionate agreement was

calculated over the total of ratings, between Rater A (first author) and Rater B (any other rater). All disagreements were discussed and resolved by consensus between raters.

Extraction and presentation of the data

A grid was established and tested a priori by the research team to complete the data extraction. A first set of descriptive data retained for each article were 1) year of publication (2014-2019; if many, year of publication in a journal issue), 2) country of first author's affiliation (textual answer), 3) academic or clinical affiliation of the first author (textual), 4) age of children included (one or more of the following ranges: 2 years, 3 years, 4 years, 5 years) and 5) population(s) of children included (textual). Second, concerning the assessment methods, data retained were 6) name of the measure(s) (English or French name, regardless of the version, textual), 7) format preferred by the authors to administrate the measure(s) (textual answer), 8) preferred informant (parent(s), educator/teacher, professional, child, or Non Applicable, in the case of a formal test where the results did not depend on an informant) and 9) construct(s) measured according to the authors (broad term not subconcept; textual).

To establish the feasability and reliability of the extraction grid, a pilot-test was conducted on ten publications. It allowed to bring necessary modifications and specify coding instructions. This led to the exclusion of literature reviews, expert opinions, consensus, or surveys. Then, an interrater agreement was calculated on 31 other publications. The proportionate agreement was calculated over the total of ratings, between Rater A (first author) and Rater B (Honour student responsible for the grid development). Having textual answers in the grid did not allow for calculation of Cohen's Kappa. After a satisfactory interrater agreement was established, the first author conducted the extraction of all other papers.

Once the extraction was completed, all data were revised, and textual answers were grouped with a codification grid developed and applied by the third author and verified by the first author (available on request). Affiliations were grouped following the research areas proposed by Web of Science (Clarivate, 2021), or according to the opinion of the authors for the few cases where the affiliations could not be clearly linked to the general categories or subcategories of interest. Names of measures were revised by another student; brief and long versions, old and new

versions or paper and computer versions of tests were collapsed as one tool. However, preschool and school-age versions were not merged. Populations were grouped under eighteen categories, as described in the results section. Neutral formulations were preferred when possible, but disability-oriented labels were kept when it was the initial authors' intention. Formats used to administrate the measure were sometimes detailed in textual answers (e.g., phone interview, research assistant observing in the classroom, parental questionnaire), and grouped into five broad categories: questionnaire, observation, interview, test, and other. Constructs identified by authors were not coded. Word Art free software was used to highlight key concepts, using its options for removing common words and stemming.

Synthesis of findings

To provide a broad perspective in line with the three aims of this scoping review, the results are reported and discussed to 1) describe the interdisciplinary literature on various groups of children aged five and under, reporting on assessment of the everyday and social functioning 2) list measures cited between 2014-2019 assessing concepts related to "social interactions" or "everyday functioning", including acronyms and original references and 3) beyond the reported tools, highlight what is present or absent in the current literature and discuss how early childhood professionals, particularly SLPs, can optimize their assessment process by drawing on this transdisciplinary knowledge.

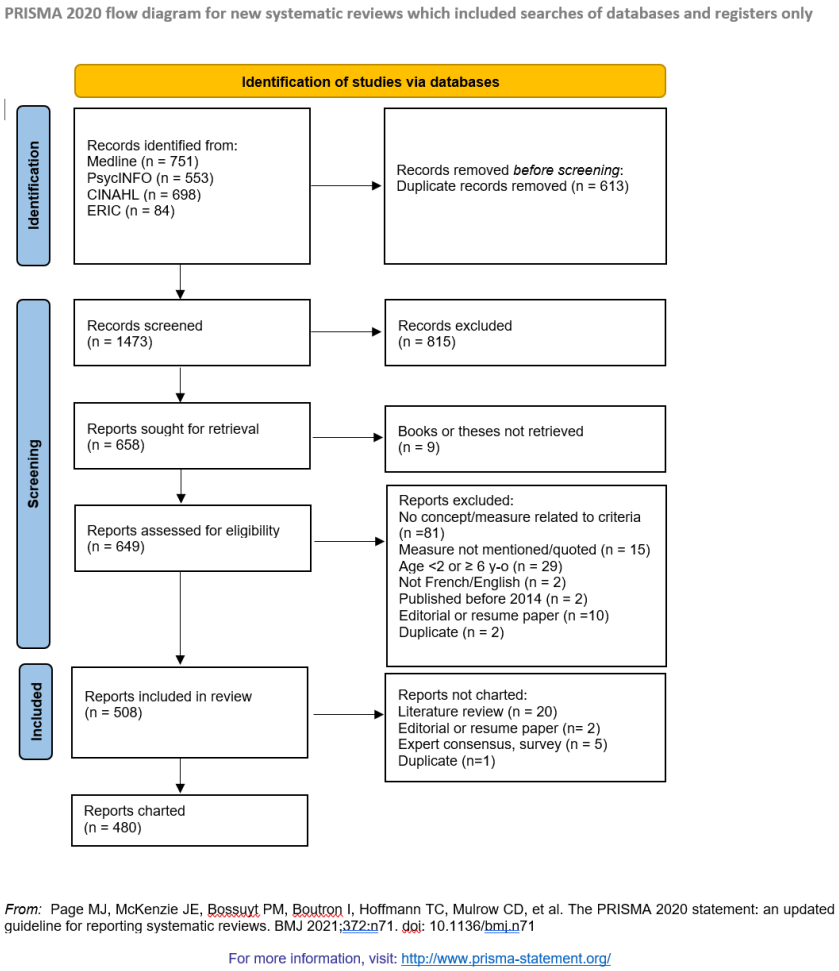
Results

Included citations and interrater reliability

The selection of studies is represented by a flowchart (Figure 1). The search of the four databases allowed to identify 2086 citations, from which 613 duplicates were removed. Of the 1473 records screened by title and abstract, 658 were retained (44.7%). Total interrater agreement for title-and-abstract screening was of 82.1% between Rater A (first author) and Rater B (any of the five other raters). Specifically, interrater agreements were of: 82.3% (A-1; *n* = 498), 75.0% (A-2; *n* = 259), 78.0% (A-3; *n* = 259), 87.0% (A-4; *n* = 238) and 90.1% (A-5; *n* = 213). All disagreements were resolved by consensus.

Before full-text review, nine books or dissertations were excluded (1.4%). At the full-text-screening stage, 141 of the 649 publications did not meet the inclusion criteria and were therefore excluded. Reasons for exclusion were: 1) mentioned measure did not assess a concept within our criteria (57%); 2) measure was used exclusively with participants under two or over five years old (20%); 3) measure was not clearly described or identified (11%); 4) full-text was not in French nor in English (3%); 5) article was published before 2014 (1%); 6) citation was an identical duplicate (1%) or a duplicate in the form of editorial or summary papers reporting results from other articles (7%). Interrater reliability for inclusion or exclusion of full-text papers between Rater A (always the first author) and Rater B (any of the six other raters) was of 86%. All disagreements were resolved by consensus.

Article 2-Figure 1. Selection of sources of evidence



From: Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. BMJ 2021;372:n71. doi: 10.1136/bmj.n71

For more information, visit: http://www.prisma-statement.org/

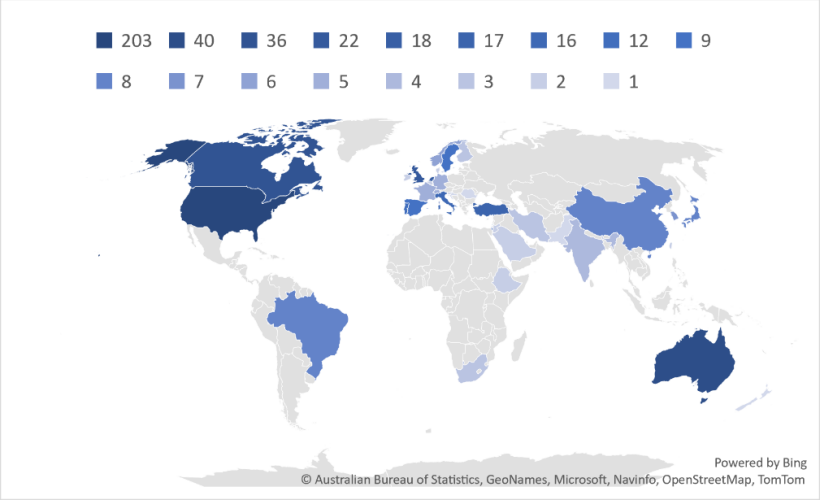
After the full-text eligibility assessment, 508 articles were included but data were not extracted for 28 of them (*n* = 1 duplicate; *n* = 27 reviews, editorial or expert papers). Final interrater reliability for the extraction grid between Rater A (first author) and Rater B (grid developer) was of 86%, as calculated on a sample of 31 articles. Subsequent codification of the data for presentation was performed and discussed jointly by the first and third authors.

The references of the 480 articles charted are provided in Supplemental Material. They included 651 mentions of 186 different assessment measures. The next section allows to report on the 480 articles with respect to the first author's country and field of affiliation, as well as the populations involved (age and characteristics). Then, the most cited measures are reported (less cited are listed in Supplemental Material). Finally, the formats, informants, and constructs related to the 651 mentions of measure used are presented.

Characteristics of the 480 articles charted

According to the first author's affiliation, 37 different countries were represented (Figure 2), but 75% of the articles came from eight countries, namely the United States (42.3%), Australia (8.3%), Canada (7.5%), United Kingdom (4.6%), The Netherlands (3.8%), Turkey (3.5%), Italy (3.3%), and Portugal (2.5%).

Article 2-Figure 2. Number of articles by country (first author's affiliation)



The first author's affiliation allowed the identification of the field of research for 92% of the articles. The broad categories of Life Sciences & Biomedicine (50%), Social Sciences (39%) and

Arts & Humanities (1%) were represented, and two subcategories of interest (Autism Research; 1% and Disabilities Research; 1%) reflected that author's affiliations could be related both to Life Sciences & Biomedicine or to Social Sciences. Among the subcategories of interest reported in Table 2, Audiology and Speech-Language Pathology accounted for 3% of the first author's affiliations.

Article 2-Table 2. Number of articles by field of research (first author's affiliation)

Category of field	N	%
LIFE SCIENCES & BIOMEDICINE		
General medicine & Other Specialities	67	14.0%
Pediatrics	21	4.4%
Psychiatry	31	6.5%
Rehabilitation	53	11.0%
Audiology and Speech-Language Pathology	16	3.3%
Health Care Sciences and Services	33	6.9%
Public, Environmental & Occupational Health	10	2.1%
Neurosciences & Neurology	9	1.9%
SOCIAL SCIENCES		
Psychology	114	23.8%
Education and Educational Research	50	10.4%
Social Sciences (Other Topics)	15	3.1%
Family Studies	7	1.5%
ART & HUMANITIES		
Music	4	0.8%
OTHER		
Autism Research	7	1.5%
Disabilities Studies	5	1.0%
UNKNOWN	38	7.9%
Total	480	99.3%

Among 480 articles, 39% included children aged 2, 58.1% age 3, 71.1% age 4, and 80% age 5. The reported populations were grouped into 18 categories, listed in Table 3. Many articles were interested in the general population (34%), either as their main focus or as a control group. Autism Spectrum Condition (ASC) was the most studied clinical group (18%). Children with a medical condition (9%) included cancer, cardiac issues, and varied physical health diagnoses too few to warrant a category. Children with developmental disabilities (7%) included broad terms that may or may not include language and communication issues (e.g., labels as developmental

delays, children with special education needs, broad delays), while specified Language and speech delays accounted for 3% of the populations identified and Hearing loss accounted for 1%.

Article 2-Table 3. Populations of children cited in the 480 articles (*n* = 638)

Population of children	Frequency	%
General population	219	34%
Autism Spectrum Condition	116	18%
Medical condition	56	9%
Developmental disabilities	46	7%
Cerebral palsy	23	4%
Environmental/genetic risk	23	4%
Identified syndromes	20	3%
Behavioral or emotional difficulties	19	3%
Language and speech delays	19	3%
Cultural/linguistic population	17	3%
Social-familial situation	17	3%
Traumatic brain injury	12	2%
Prematurity	11	2%
ADD/ADHD	10	2%
Mental health	10	2%
Hearing loss	9	1%
Intellectual disability	8	1%
Specific population (e.g. High potential)	3	<1%

Characteristics of assessment measures

Of the 186 different measures found among the 651 citations, 59.7% were mentioned only once (*n* = 111), 12.9% were mentioned twice (n = 24), and 9.1% were mentioned thrice (*n* = 17). Thus, 18.3% (*n* = 34) of the measures had more than three mentions (4 to 9 mentions, 12.4% [*n* = 23] and 5.9% [*n* = 11] 10 or more). The most cited 11measures (10 mentions or more) counted for 48.7% of all mentions (317/651) and are listed in Table 4. The 23 next most cited measures (4 to 9 mentions) counted for 19% of all mentions (124/651) and are listed in Table 5. Together, the other 152 measures/methods which were mentioned once, twice, or thrice, counted for 32.3% of all mentions (210/651) and are available in Supplemental Material.

Article 2-Table 4. Measures having ten mentions or more (*n* = 11)

Assessment measure	Acronym	Reference	Mentions
Vineland Adaptive Behavior Scale	VABS	Sparrow et al. (2005)	66
Social Skills Rating/Improvement System	SSRS/SSIS	Gresham & Elliot (1990; 2008)	44
Strenght and Difficulties Questionnaire	SDQ	Goodman (1997)	36
Social Responsiveness Scale	SRS	Constantino & Gruber (2005; 2012)	33
Pediatric Evaluation of Disability Inventory/ -Computer Adaptive Test	PEDI/ PEDI-CAT	Haley et al. (1992)/ Coster et al. (2008)	31
Social Competence and Behavior Evaluation	SCBE	LaFreniere & Dumas (1995)	28
Brief-/Infant Toddler Social and Emotional Assessment	ITSEA/ BITSEA	Carter & Briggs-Gowan (2005; 2006)	27
Autism Diagnosis Observation Scale	ADOS/ADOS-2	Lord et al. (2000; 2012)	18
Adaptive Behavior Assessment System	ABAS-II	Harrison & Oakland (2003)	14
Social Communication Questionnaire	SCQ	Rutter et al. (2003)	10
Young Children's Participation and Environment Measure	YC-PEM	Khetani et al. (2015)	10

Note. Complete references available upon request.

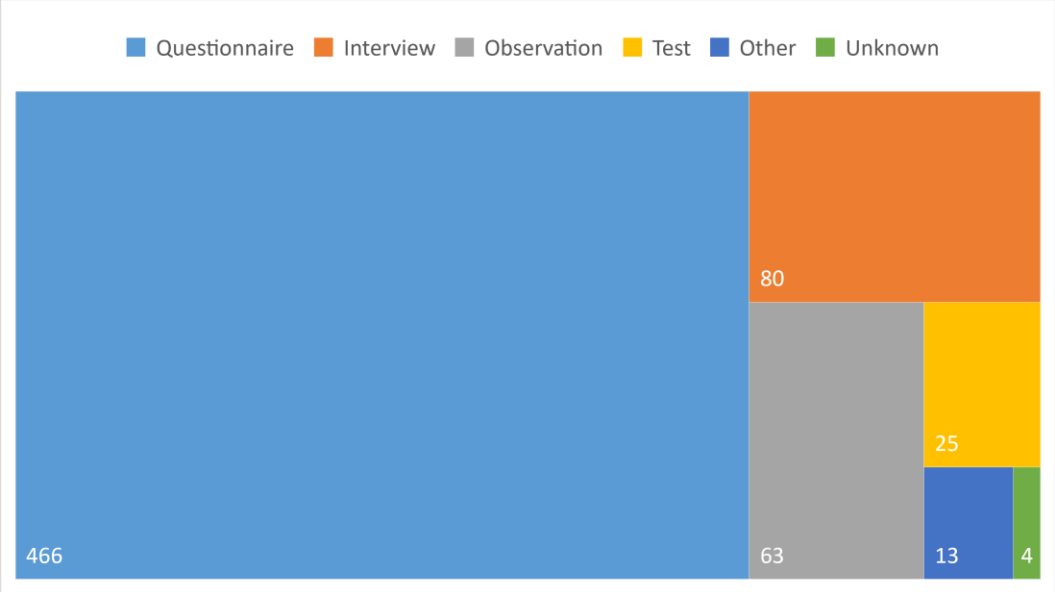
Article 2-Table 5. Measures having four to nine mentions (*n* = 23)

Assessment measure	Acronym	Reference	Mentions
Behavior Assessment System for Children	BASC-2	Reynolds & Kamphaus (2004)	9
Participation and Environment Measure for Children and Youth	PEM-CY	Coster et al. (2011)	9
Ages and Stages Questionnaire: Social-Emotional	ASQ:SE	Squires et al. (1990; 2002)	8
Pediatric Quality of Life Inventory	PedsQL	Varni et al. (2001)	8
Preschool and Kindergarten Behavior Scale	PKBS-2	Merrell (2003)	8
Autism Diagnostic Interview, Revised	ADI-R	Rutter et al. (2003)	6
Child Behavior Checklist for ages 1½-5	CBCL	Achenbach & Rescorla (2000)	6
Functional independence measure for children	Wee-FIM	Granger & McCabe (1990)	6
International Classification of Functioning, Disability, and Health-Children and Youth	ICF-CY	WHO (2007)	5
California Child Q-Sort with derived social competence score	CCQ	Block & Block (1980); Waters et al. (1985)	5
Communication and Symbolic Behavior Scales	CSBS	Wetherby & Prizant (2002)	5
Vineland Social Maturity Scale	VSMS	Doll (1935)	5
Assessment of Preschool Children's Participation	APCP	King et al. (2006)	4
Children's Assessment of Participation and Enjoyment	CAPE	King et al. (2004)	4
Children's Communication Checklist	CCC-2	Bishop (2003)	4
Children's Global Assessment Scale	CGAS	Schaffer et al. (1983)	4
Early Social Communication Scale	ESCS	Mundy et al. (2003)	4
Focus on the Outcomes of Communication Under Six	FOCUS	Thomas-Stonell et al. (2010)	4
MacArthur Health and Behavior Questionnaire	HBQ	Armstrong et al. (2003)	4
Penn Interactive Peer Play Scale	PIPPS	Fantuzzo & Hampton (2000)	4
Preschool Q-Sort with derived social competence score	PQ	Baumrind (1968); Waters et al. (1985)	4
Social Competence Scale	SCScale	Conduct Problems Prevention Research Group (1995)	4
Scales of Independent Behavior-Revised	SIB-R	Bruininks et al. (1996)	4

Note. Complete references available upon request.

Distribution of assessment type among the 651 mentions of measures are shown in Figure 3. Questionnaires were the most frequent (71.6%) and included rating, checklist, and scale. Interview followed (12.3%), including those in person or with other modalities (e.g., by phone). The Observation format (9.7%) included, for example, video recording with codification of interactions and semi-structured protocols assessing peer interaction in class. The Test category was selected when the authors described tasks administered by an examinor and found only 3.8% of the time. The Other category (2%) included technology for quantification of social behaviors (*n* = 3), instruments administered by case managers (*n* = 5), chart review, peer nominations, or classification system (*n* = 5). Information about the format was not available for four of the 651 tools/methods (0.6%).

Article 2-Figure 3. Distribution of measures described in the articles according to format



Informants were parents (58.5%), educators/teachers (21.8%), trained professionals (13.5%), or, rarely, the child (1.8%). Attribution of an informant was nonapplicable for 4.1% of the citations (e.g., test with protocol not relying on the administrator's interpretation). The informant was not retrieved in one of the 651 mentions of tools or methods (0.2%). Finally, constructs defined by authors are depicted in Figure 4.

Article 2-Figure 4. Word Cloud highlighting the concepts the authors aimed to measure

Note. Cloud developed with Word Art free online software, using Remove common words + Stemming options

Discussion

This scoping review aimed to broaden SLP disciplinary knowledge through exposure to other early childhood professionals' practices in evaluating children's participation, focusing on everyday functioning and social interactions in preschoolers in a transdiagnostic manner (Astle et al., 2022). The interdisciplinary nature of this literature review was confirmed by the presence of authors affiliated with the medical, social, rehabilitation, and education fields. Databases traditionally used in different disciplines were searched, but the proportion of articles from the education database (ERIC) was much lower than those from the medical (Medline), rehabilitation (CINHAL) or psychology (PsychINFO) databases. Although limited to articles in English and French, this review is international, with 37 countries represented. To be informed of assessment practices in various countries and to increase knowledge sharing, it was not a criterion that the measures reported be available in English or French. Nevertheless, as with many other reviews,

it should be noted that the literature from the United States is largely predominant (42.3% of articles) and that practices from the Western World are therefore over-represented in the results collected.

This scoping review showed that measures assessing the targeted concepts of everyday functioning and social interactions in early childhood quoted were numerous between 2014-2019, although studies including 5-year-olds were twice as common as studies including 2-year-olds. Assessment of these concepts was reported in the general population and in various clinical populations of young children, such as children with medical conditions, cerebral palsy or identified syndromes, as well as in children with developmental disabilities, environmental/genetic risk, behavioral or emotional difficulties, which promotes a transdiagnostic approach. The largest clinical population represented in the literature was children with ASC, which could be related to the importance of assessing social interactions to document the symptoms that lead to its diagnosis. Only 3% of the populations were specifically identified as having language and speech delays, which is congruent with the low proportion of assessment tools addressing those concepts used by preschool SLPs (Cunningham et al., 2017).

Many different but few well-known measures

To reflect on how professionals can learn from expertise developed in different fields, we focused on a critical five-year period when the literature had both established the need for SLPs to assess the functional impacts of language impairments in young children and the paucity of participation-based outcome measures in their practice, namely 2014 to 2019. When the CATALISE consensus published the DLD criteria, Bishop and colleagues (2017) reflected the idea carried in the SLP community that tools assessing children's functioning were scarce. However, the current review invites to question the diagnosis-centric perspective underlying this assertion, to pivot towards a more transdiagnostic functional perspective. While broad, concepts addressed by our research question were directly inspired by the functional impairments expected in preschoolers with language disorders (Bishop et al., 2017). It listed 186 different measures from 651 mentions of assessment tools and methods applied to 2-5 years old children, aiming to measure their everyday functioning, that is, their participation in meaningful real-life situations,

or their social interactions outside their home. Finding many different tools is not unique to the current review. For example, Humphrey et al. (2011) first identified 189 measures of social-emotional skills in children and young people, and Béliveau et al. (2014) identified 181 measures of development and adaptation in children under six. It is also common for these directories to have few tools that are widely known, cited, and used (Béliveau et al., 2014; Humphrey et al., 2011).

In the current review, although the number of different measures available for young children seems incredibly large, fewer than a dozen measures are widely known and used in the literature. Having very few highly documented measures and a very large number of little-used measures seems consistent with the finding that few measures addressing participation were known and used by SLPs with preschoolers (Cunningham et al., 2017). In a similar vein, only 12 of the 25 measures used by the SLPs to assess changes related to participation in preschool children according to Cunningham et al. (2017) were found in the current review, and those were mostly in the tools having four citations or more (10/12). It is to note that the results of the current review also partially but significantly overlapped with the tools cited in other reviews interested in the concepts we targeted, even if those were aimed at children aged 0-18 years old, while we were interested in 2–5-year-olds only. The current review identified 19 of the 51 measures used to quantify participation in childhood disability in Adair et al.'s review (2018), and four of the twelve selected measures of social and emotional skills for children and young people in Humphrey et al.'s review (2011). More precisely, supplemental information provided in Humphrey et al.'s paper indicated that our review covered four of the five tools they selected to assess preschoolers within the scope ''Social'' or ''Social-emotional''.

Most cited measures

In the current review, measures with more citations were mostly developed almost two decades ago and have been in use for a long time. Ten of the eleven measures cited ten times or more were published before 2005, the only exception being the Young Children's Participation and Environment Measure (YC-PEM; Khetani et al., 2015), which was developed over several years and the subject of numerous scientific publications. Measures having more citations were known

and used in several disciplines, countries, and populations. Thus, the three most cited measures, namely the Vineland Adaptive Behavior Scale (VABS; Sparrow et al., 2005), the Social Skills Rating/Improvement System (SSRS/SSIS; Gresham & Elliot, 1990; 2008) and the Strength and Difficulties Questionnaire (SDQ; Goodman, 1997) were also identified by SLPs assessing participation in Cunningham et al.'s review (2017), while the SSRS/SSIS and the Social Competence and Behavior Evaluation (SCBE; LaFreniere & Dumas, 1995) had been identified as important social-emotional measures by Humphrey et al. (2011). Moreover, it also appeared that many of the most cited tools were designed to measure the social-communicative functioning of children with autism. Again, this highlights the overrepresentation of tools that measure symptoms of a disorder rather than functioning and may explain the presence of the Social Responsiveness Scale (SRS; Constantino & Gruber, 2005), the ADOS/ADOS-2 (Lord et al., 2000; 2012), and the Social Communication Questionnaire (SCQ; Rutter et al., 2003) in the short list of measures cited ten or more times. This issue was also raised by Cunningham et al. (2017) who noted that not only the ADOS but also other tools such as the VABS had been predominantly reported in studies measuring outcomes in children with ASC. The current review also points out other measures mostly cited in the fields of medicine (e.g., Pediatric Evaluation of Disability Inventory (PEDI; Haley et al., 1992, PEDI-CAT; Coster et al., 2008), of early intervention (e.g., Infant Toddler Social and Emotional Assessment (ITSEA/BITSEA; Carter & Briggs-Gowan, 2005; Carter & Briggs-Gowan, 2006), of intellectual disability (e.g., Adaptive Behavior Assessment System (ABAS-II; Harrison & Oakland, 2003), and of occupational therapy (e.g., YC-PEM; Kethani et al., 2015).

Other measures of interest

Most of the measures cited 4-9 times were also mostly well-established, considering that 83% (19/23) of them were published in 2005 or earlier according to their references. Cited four times, the Focus on the Outcomes of Communication Under Six (FOCUS) by Thomas-Stonell et al. (2010) is an example of a more recent measure already well-studied by researchers and known by several SLPs (Cunningham et al., 2020; Kwok et al., 2021). Other measures mentioned less often are also of interest. For example, the Canadian Occupational Performance Measure (COPM) by Law et al. (1991) has three citations (and therefore is only listed in Supplemental Material) but

was recently the object of an Australian scoping review indicating that it would be a valuable tool to implement internationally in early intervention (Mathews et al., 2020).

Beyond specific tools

The current scoping review widely covered the ways everyday functioning and social relations of young children were assessed and confirmed that a plethora of measures existed, from well-known standardized and published tools to experimental measures developed by different researchers. Obviously, to think that the most cited measures should be preferred by early childhood professionals is a generalization to avoid. It is important to acknowledge that finding more citations does not ensure that those tools are the most effective to measure what an early childhood professional would aim to measure, for example the effects of an intervention. Psychometric qualities of specific tools were not examined here. Nonetheless, the validity and reliability of measures regularly cited in the literature are generally more documented than that of in-house tools. To help early childhood professionals verify the adequacy of a tool, frameworks such as COnsensus-based Standards for the selection of health Measurement INstruments (COSMIN) developed by Mokkink et al. (2018) exist and have been demonstrated as useful in the literature, for example for the FOCUS (Kwok et al., 2021).

In clinical and educational settings, standardized methods are not always the most appropriate for children whose characteristics (e.g., their culture, language of origin, or life context) do not correspond to those of the populations for which the measures have been standardized. Thus, some tools included in the present study are not directly applicable to other populations (e.g., web survey with questions on ICF participation domain related to Duchesne's disease; Janssen et al., 2014), but reflect a procedure that could inspire "customization" for a particular population, living environment or practice setting. In this regard, we were also interested in synthesizing the distribution of measures described in the articles according to format and informant, to point out what already exists but, more importantly, what seems to be missing in the literature. Not surprisingly, information about young children’s daily functioning and social relations in a research setting is more often collected via questionnaires (71.6%), and parents are the most frequently solicited (58.5%). However, knowing that participation, socialization, and functioning

are better assessed in a multi-method and multi-informant way (McCabe & Marshall, 2006), early childhood professionals should take interest in formats and informants less represented in the review, such as interviews, direct observations, and even emergent formats as technology for quantification of social behaviours. In the same vein, a significant proportion of information about the child's functioning was collected by educators/teachers, while some collection methods relied on the opinions of professionals, whether they observe directly or synthesize the information obtained about the child. This highlights the lack of tools and methods directly collecting the children's own perception (1.8%), which should be addressed. It is to note that few qualitative studies were included in the current review; a focus on this research design could have informed better on different data collection methods, especially those giving a voice to young children and children with developmental and communicational challenges (Lyons et al., 2022).

As part of a larger discussion, this scoping review can help spread the word about the existence of numerous measures, by making available a catalogue that everyone can refer to. We postulated that access to interdisciplinary knowledge is complicated by the multiplicity of concepts and sub-concepts potentially relevant to the social and everyday functioning of preschoolers. For this reason, we deemed it necessary to collate the terms used by the authors of the articles when they operationalized the concept they aimed to assess using the cited measure. The word cloud highlighted the importance of the social sphere in the assessment of functional impacts, which may be of interest to preschool SLPs. The word cloud also showed that a majority of the concepts are described in either a neutral or a positive way (e.g., function, behavior, play, peer, engagement, competent, skill), while negative or diagnosis-related wording (e.g. problems, isolation, autism, symptoms) are fewer. This is congruent with an emergent evaluative posture that advocates for highlighting individual profiles and abilities and recognition of the diversity of children's needs, regardless of their diagnoses (Shanmugarajah et al., 2021).

Research and clinical implications

To cover a broad research focus across different bodies of literature, the present review required significant human and time resources. It highlighted the added value of looking outside a single

practice area, but also illustrated the challenges yet to come in terms of knowledge translation. In Ontario, Canada, several implementation strategies over many years were proven necessary to promote the use of one participation-based outcome measure in a preschool speech-language program (Cunningham & Cardy, 2020). Knowing that research-supported methods can take 17 years to translate to the clinic (Morris et al., 2011), it is of primary importance not only to synthesize relevant transdisciplinary information, but also to recommend ways for early childhood professionals to put it into practice. In the last years, researchers developed, implemented, and studied the effectiveness of knowledge translation strategies in rehabilitation and allied health professions, which could help develop the steps that should follow this scoping review (Cunningham & Cardy, 2020; Moore et al., 2018; Scott et al., 2012). For example, in Chicago, USA, the implementation of a knowledge translation process, namely the Battery of Rehabilitation Assessments and Intervention, was proved effective in a large rehabilitation organization to promote and increase the adoption of evidence-based practices. After six years, 91% of the physical therapists, occupational therapists and SLPs reported an increased use of outcome measures (Moore et al., 2018).

In the current scoping review, two main concepts related with participation were initially targeted (everyday functioning; social interactions) and extended to other keywords referring to related concepts in other disciplines, which already required a sound knowledge of these concepts before the search. Nevertheless, the author's formulations of the concepts they sought to measure in the selected articles are much broader and more diverse. The synthesized word cloud of the current review could be useful to expand the thesaurus allowing early childhood professionals to access literature relevant to the evaluation of participation, focusing on everyday functioning and social interactions of children up to five years of age, by cross-referencing different viewpoints and conceptual inspirations to adopt a transdisciplinary and transdiagnostic perspective. The measures cited in the literature between 2014 and 2019 could be useful for initiating a conversation between families and early childhood professionals from different backgrounds, knowing that a plethora of tools exists and continues to be developed in several disciplines, appealing to different interveners by different means. Another challenge is then to work as a team to decide what is most needed and meaningful to the family we are working with.

Limitations

The very broad and inclusive identification approach we chose and our decision to include measures that operationalized similar but different concepts can be seen as limitations, especially since we chose not to distinguish them on a theoretical basis when synthesizing the results. Nonetheless, to be broad is often relevant to a scoping review, to avoid the omission of important information and to allow the existing literature of interest to be portrayed more fully (Khalil et al., 2016). Moreover, it has the advantage of reflecting the blur that early childhood professionals may have to manage when implementing the best assessment for a particular young child's functioning. The present study was interested in the added value of a transdisciplinary and transdiagnostic perspective to evaluate concepts leading to the development of functional objectives anchored in the child's daily life. Accordingly, a limitation of this study could be that not all the measures identified are directly applicable in the clinic, either because their psychometric qualities have not been verified or because they can be intended for children with specific conditions or diagnoses. As discussed above, we recognize these limitations and strongly encourage clinicians to use the results of the current review not as an end but rather as a starting point for joint reflection between family and diverse stakeholders.

As another limitation, establishing few exclusion criteria resulted in an unusually high rate of inclusion, observed in both the abstract and the full-text examination. It identified a large number of assessment tools and methods used in the 2-5 years over 2014-2019, and therefore it would not have been realistic to update the search at the end of the process. Thus, one shortcoming of the current study is that it does not inform about tools and methods cited after 2019. Nonetheless, it was observed that the tools and methods cited between 2014 and 2019 were generally not recent, a significant proportion of the most cited tools published before 2005. This high rate of inclusion also prevented additional grey literature searches, due to the already large corpus to analyze. Similarly, coverage of the literature for the infancy period (0-2 years) could identify additional tools or methods useful for early childhood professionals, but we had decided to limit our research to 2-5 years, a period when young children are more subject to professional assessments, in accordance with the indexing of databases. The decision to include tools for five-year-olds had an impact on outcomes because it resulted in the inclusion of many measures for

school-aged children five years and older. Since five-year-olds represent a large proportion of preschool visits to professionals, the current review can help target entry to school and school-age tools that address concepts related to social participation, not academic.

Methodologically, the involvement of several judges in the process of article selection prevented the calculation of Cohen's kappa. However, interrater agreement was verified at all stages of the selection process, both at the abstract and full-text stages, and all disagreements were resolved by consensus. For the data extraction, the interrater agreement was obtained for a sample of articles, but the extraction grid was rigorously established and tested a priori. The data synthesis was rigorously performed and verified by two different judges. Nevertheless, we acknowledge that other measurement errors could have occurred regarding the grouping of less common test versions and adaptations. This aspect was further verified when seeking references.

Finally, we recognize that there is a potential bias in the evidence included in the current scoping review. Only articles in English and French indexed in the main databases were consulted, which is a significant limitation. Although qualitative design was not excluded, it was informally observed that the inclusion criteria were primarily aligned with evidence sources with quantitative design. During the process, articles published in the disciplines of social work and occupational therapy appeared to have a high rate of exclusion compared to the disciplines of health and medicine, perhaps because they did not provide all the information sought in the inclusion criteria. To counter this limitation, a specific examination of qualitative research, grey literature and literature that explicitly questions the power relationships inherent in the assessment of children by "experts" is necessary.

Conclusion

The purpose of this scoping review was to broadly cover what measures have been reported across several disciplines interested in assessing young children's participation, focusing on everyday functioning and social interactions, in order to promote a transdiagnostic perspective and to foster knowledge transfer and collaboration among early childhood professionals from diverse backgrounds. During the 2014-2019 period, in which preschool SLPs were encouraged to assess these concepts but the lack of tools to do so in their discipline was deemed an important

challenge in the process. Nevertheless, we identified 186 different tools used with children aged two to five years during that period. This required the inclusion of several related or distinct conceptual model keywords from different practice areas and populations, as well as the inclusion of tools and methods from both standardized and unstandardized clinical and research settings. In view of the results of this scoping review, the challenge does not seem to be so much the lack of measures available for assessing the functioning of young children (Bishop et al., 2017), but rather the lack of harmonization between researchers and professionals in the childhood interdisciplinary field of concepts and measures that operationalize them. This can hamper awareness of existing tools and the choice of the most relevant ones by early childhood professionals. The measures identified here only partially overlap with the lists established by other authors to assess social relations, participation and functioning in young children (e.g., Adair et al., 2018; Cunningham et al., 2017; Humphrey et al., 2011). This highlights the challenges inherent in knowledge transfer enabling the shift from unidisciplinary, diagnostic-focused practices to child- and family-focused practices.

We hope that this scoping review will contribute to efforts to implement transdisciplinary and transdiagnostic methods focused on young children's functioning in their daily lives by stimulating consideration of a broader range of collection methods and informants, and by allowing for the use of practices from diverse disciplines and populations. Beyond the tool used, there is no doubt that an assessment focused on functional impairments better connects to the perspective of children, families, and those around them, and guides interventions in that direction (Eagle et al., 2016). Ongoing research continues to clarify conceptual frameworks and develop and evaluate the effectiveness of related assessment methods. Meanwhile, we must continue to support innovative, family-centered practices in early childhood settings, building on what already exists, being curious about the solutions our partners are thinking about, and sometimes daring to challenge the barriers between professions.

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Chapitre 4 – Hierarchical Model of Assessment of Social Competence: Empirical Verification Among Clinical Preschoolers

Ce chapitre présente une étude vérifiant si la compétence sociale peut être scindée en deux facteurs et évaluée de façon hiérarchique chez des enfants consultant en clinique spécialisée à l'âge préscolaire, en présence ou en l'absence de TDL. En utilisant un outil standardisé déjà publié et utilisé au Québec, le Profil Socio-Affectif de l'enfant (LaFreniere et al., 1997), le modèle théorique d'Ashton (2018) est vérifié en tentant d'évaluer d'abord l'adaptation sociale (liée à la satisfaction des enfants, des pairs et des adultes dans l'interaction), distinctement du fonctionnement social (lié aux comportements que l'enfant actualise dans l'interaction). Ce chapitre s'intitule « Hierarchical Model of Assessment of Social Competence : Empirical Verification Among Clinical Preschoolers » et est présenté sous la forme du manuscrit soumis. Les références citées dans l'article se trouvent à la fin du présent chapitre. Du matériel supplémentaire à l'article (analyses préliminaires) se trouve en annexe de la thèse (Annexe 3). L'approbation éthique du projet se trouve également en annexe (Annexe 4).

Breault, C., Béliveau, M.J., Rezzonico, S., Trudeau, N. (soumis). Hierarchical Model of Assessment of Social Competence: Empirical Verification Among Clinical Preschoolers.

Abstract

Children with developmental challenges are at a disadvantage in social interactions, beginning in daycare. Questionnaires often assess social competence as a catch-all construct, rendering it difficult to prioritize intervention goals. Ashton's hierarchical model of assessment suggests focusing first on social adjustment (based on child, peer, and adult satisfaction), before social functioning (based on child behavior). The current study tested whether these two theoretical factors could be identified in the positive poles of the Social Competence and Behavior Evaluation teacher report. Confirmatory factor analysis demonstrated support for the two-factor solution in two subgroups of children seen in a Canadian early childhood psychiatric clinic (mean age = 52 months), with (n = 217) or without (n = 99) developmental language disorder. The relevance of focusing on social adjustment first was promoted by a structural model equation controlling for multiple variables. This encourages early childhood professionals to adopt a positive, top-down assessment model.

Keywords: assessment, social competence, preschoolers, developmental language disorder, teacher report

Introduction

From an inclusive point of view, it is of first importance that educators have tools to observe and analyze strengths and challenges encountered by each child regarding their social competence (SC), defined as effectiveness in social interaction (Rose-Krasnor, 1997). Effectiveness in social interaction is central to the participation of children, including those with disabilities (Willis et al., 2017), such as children experiencing developmental language disorder (DLD). DLD is a hidden but frequent condition found in 7.5% of the preschool population (Norbury et al., 2016). DLD is characterized by persistent difficulties to communicate that affect people's daily functioning and socialization throughout life, with no known cause (Bishop et al., 2017). Daycare and preschool settings are important for developing social interaction, especially for children with developmental challenges, who have fewer opportunities to socialize in community activities than their peers (Dunst, 2020). Parents of children with developmental difficulties frequently report the desire to see their children engage more with their peers in daycare (Benjamin et al., 2017; Di Marino et al., 2018; Stelmokaite et al., 2022).

Social competence

SC is a multidimensional concept that has been defined in multiple ways (Cavell et al., 2003; Lillvist et al., 2009; Longobardi et al., 2016). A functional approach to SC focuses on effectiveness in social interaction, which encompasses the perspective of self and others, is transactional, context-dependent, and goal-specific (Rose-Krasnor, 1997). It does not only focus on the child's characteristics but on the outcome of interaction with a variety of people and environmental factors. Also, SC should be assessed from a holistic perspective that considers personal (e.g., ethnicity and family background) and environmental factors (e.g., the type of setting attended) (McLaughlin et al., 2018). Moreover, SC assessment allows focusing on strengths rather than deficits to inform interventions, which is consistent with the principles of inclusive education (Joy, 2016).

Ashton's hierarchical model for assessing social competence

Those providing services to children with disabilities need to have an operationalization of the theoretical models so that the assessment of SC is evidence-based, accessible, and cost-effective.

Building on existing models (Beauchamp & Anderson, 2010; Cavell, 1990; Hinde & Stevenson-Hinde, 1987; Rose-Krasnor, 1997; Yeates et al., 2007), Ashton (2018) developed a three-layer hierarchical model to inform the assessment of SC in children encountering disabilities, particularly those with acquired brain injury. By documenting positive social outcomes, this model suggests a paradigm shift for professionals by proposing that social adjustment guides the assessment of a child's behavioral and cognitive abilities, not the reverse. To this end, Ashton's model distinguishes Social adjustment (based on child, peer, and adult satisfaction) from Social functioning (based on the child's observable behaviors in the context of interaction) and Social cognition (based on the child's underlying cognitive abilities). According to this author, SC should be assessed from the top down, beginning with social adjustment, and possibly restrained to this top layer. The next lower levels (i.e., social functioning and social cognition) should only be assessed when social adjustment difficulties are identified. To our knowledge, no study thus far has investigated whether empirical support could be found for Ashton's hierarchical model. To be ecologically valid, it should be examined in different groups of clinical children known to have SC challenges, such as children with DLD.

Social competence in children with DLD

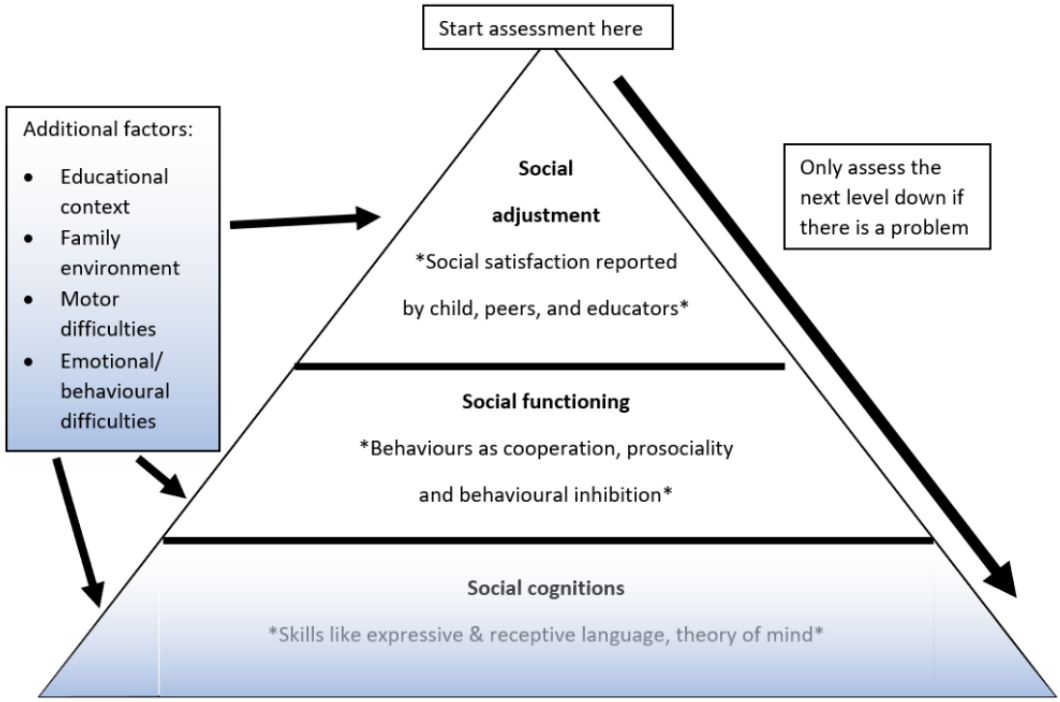
In early childhood, children with DLD are less socially competent than their peers as a group, but they show highly variable profiles as individuals, which persists in older children and teenagers (Conti-Ramsden and Botting, 2004; Lindsay et al., 2007; McCabe, 2005; McCormack et al., 2009; St Clair et al., 2011). What protects or disadvantages children with DLD in their social interactions is still unclear. To our knowledge, no study has examined the SC of children with DLD with a hierarchical model. Also, children with DLD are hardly ever compared to other clinical groups regarding their SC, so the discrepancy observed between them and control groups could be related to the presence of developmental difficulties in general. As well, a limitation of previous studies is that while children with DLD are likely to have comorbidities, comorbid disorders are rarely properly documented. Present in 40% to 90% of children with DLD (Hill, 2001), developmental coordination disorder (DCD) is likely to have a major impact on social interactions (see Leonard & Hill's review, 2014). Disruptive disorders, namely attention-deficit/hyperactivity disorder (ADHD) and oppositional defiant disorder (ODD), as are interiorized problems such as

anxiety, are also frequently associated with DLD and associated with SC (Dennis et al., 2021; Huber et al., 2019; Sciberras et al., 2014). We are aware of no studies that have simultaneously considered comorbid conditions of DCD, ADHD, ODD, and anxiety.

Testing the appropriateness of assessing SC in a positive, hierarchical, and contextual manner with populations of children seeking services conveys important theoretical and clinical implications. It can provide empirical support for Ashton's assessment model, as well as a common framework for effectively assessing social adjustment in different preschool education settings to improve children's inclusion. Focusing on the relative strengths of children with DLD to enhance their social adjustment constitutes an important protective factor for their future development. In addition, the application of a hierarchical model could allow for a primary focus in intervention on what can improve the social satisfaction of the child, peers, and adults in daily interactions. It could also spare children from numerous assessments regarding levels of personal skills and abilities when the higher level of social adjustment is preserved.

An adaptation of Ashton's hierarchical model for assessing SC (2018) is hereby proposed for children with DLD (see Figure 1). In this modified model, we have retained Ashton's categories (headings and relations) but adjusted the content and shaded the elements that are less easily observable in a preschool context. Questionnaires that are routinely administered for assessment purposes when children with disabilities attends daycare or preschool contexts could be investigated to verify whether they can be useful in identifying Social adjustment and Social functioning, the top two layers of Ashton's hierarchical model for assessing SC. The Social Competence and Behavior Evaluation Scale (SCBE; LaFreniere & Dumas, 1995) is of particular interest because of its strong theoretical base, its excellent psychometric characteristics, its widespread use among preschool children aged 2 ½ to 6 years old around the world, and because it was developed and standardized in Quebec, Canada, where the current study was held (Humphrey et al., 2011; LaFreniere et al., 1997).

Article 3-Figure 1. Hierarchical model of assessment for DLD preschoolers (adapted from Ashton, 2018)



Note. The shaded areas correspond to potentially less easily observable elements in a preschool context.

Current study

This study will be carried out in two groups of young children (DLD vs No-DLD) who consulted in an outpatient specialized clinic, for whom educator/teacher provided data. The research questions are:

1) Using the SCBE educator/teacher report (LaFreniere et al., 1997), can two factors - corresponding to Social functioning and Social adjustment - be identified in the SC scale? The hypothesis is that a statistical treatment of the items in the SCBE report (French version; LaFreniere et al., 1997) would lead to two factors that can correspond to Social functioning and Social adjustment with no items loading to another factor, corroborating Ashton's hierarchical model.
2) As measured by the SCBE, what proportion of Social adjustment is explained by Social functioning while controlling for the influence of age, gender, educational context, family

environment, motor, and emotional or behavioral difficulties? The hypothesis, following Ashton's model, is that the two factors are hierarchically related and that Social adjustment is better explained when both Social functioning and other personal and environmental characteristics are considered.

No assumptions are made about whether the model will work differently between children in the two clinical groups, given the lack of previous data comparing subgroups of clinical preschoolers.

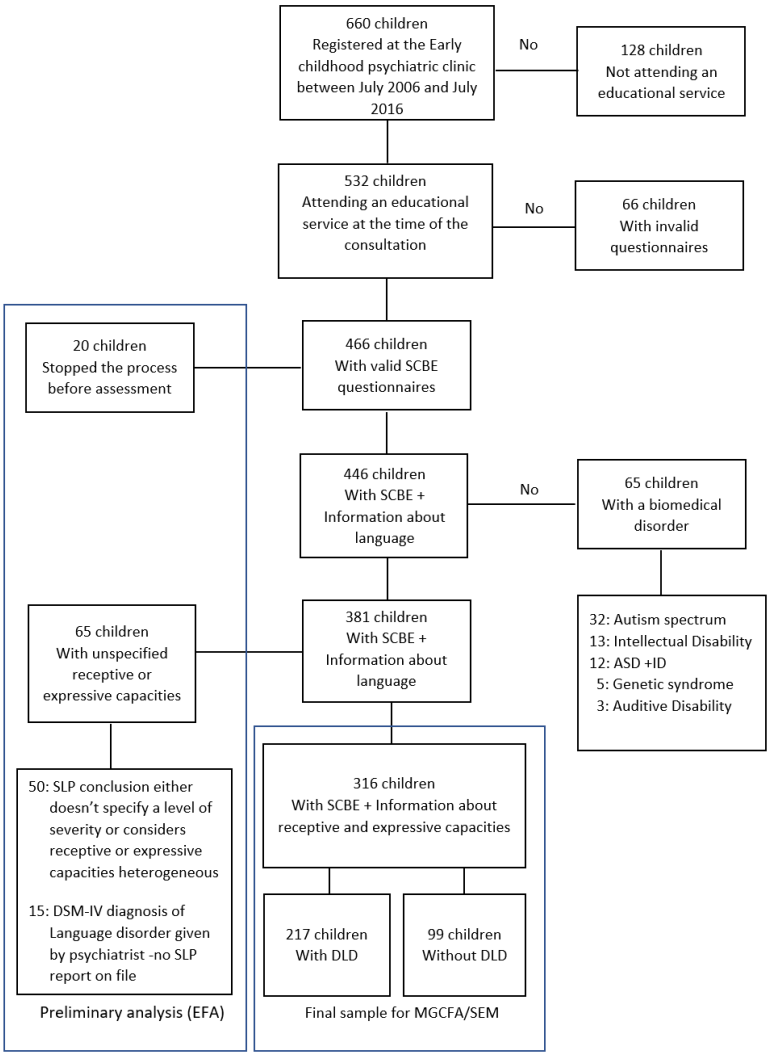
Method

Participants

This study is part of a project describing children who consulted at an early childhood psychiatric clinic in a large metropolitan area in Canada over ten years. Children were under six years old. Reasons for referral were complex and multidimensional, as they included developmental, emotional, or behavioral issues, but excluded all consultations primarily related to an Autism Spectrum Condition (ASC) diagnosis. Language difficulties were diagnosed in three-quarters of children, which is consistent with what has been documented in similar samples (Benner et al., 2002; Smolla et al., 2015). Data were extracted from clinical records following approval from the institutional Research Ethics Committee.

Among the 660 children enrolled in the clinic during that period, 532 attended an educative setting outside their homes. Participants with a valid SCBE questionnaire were included in the study if they had no identified biomedical condition such as ASC, intellectual disability, or physical syndromes, in line with the DLD criteria (Bishop et al., 2017). The final sample consisted of 316 children for whom information about their receptive and expressive language capacities was available (see flowchart in Figure 2). The 20 children who had not completed the clinical process and the 65 children who had unspecified receptive or expressive capacities were used for a preliminary exploratory factor analysis (EFA) of the SC scale of the SCBE.

Article 3-Figure 2. Flowchart of participants



For the final sample (n = 316), the children's mean age was of 51.66 months (SD = 11.83, median = 52.00, min-max = 30-74). The ratio was 3 boys: 1 girl, with 36.1% of mothers born outside the country (information was missing for 3.5% of the sample). Since the clinic received referrals from pediatricians in the health system over ten years, the children came from a variety of backgrounds. According to the clinicians, the teachers who have provided reports were almost as many as the number of children, working in different classrooms and daycares. However, this information could not be verified given the retrospective research design. The main educative setting was daycare (71.2%), while 21.2% attended kindergarten. Children in other types of settings were few (4.1%) and therefore excluded.

Co-occurrent psychiatric diagnoses were observed for most children; 62.0% had a diagnosis in the motor category (DCD, sensory regulation, tics), 52.8% in the disruptive category (ODD, ADHD), and 41.4% in the relational problem category (relational problems, family troubles, educational problems). Anxiety was diagnosed in 14.2% of the sample, while 12.0% had other problems, such as encopresis or sleep disorders.

Children with DLD constituted 68.4% of the sample (n=217/316), while children without DLD constituted the remaining 31.3% of the sample (n=99). Significant differences between children with and without DLD were found regarding their socio-demographic and clinical characteristics (Figure 3). Children in the DLD group were slightly younger, more often boys, had more often a mother born outside the country, and most were also diagnosed with DCD. Children in the No-DLD group had, in proportion, more diagnoses of anxiety and relationship problems, and a tendency was observed for more diagnoses of disruptive problems. Those characteristics were therefore kept in the final model as control variables.

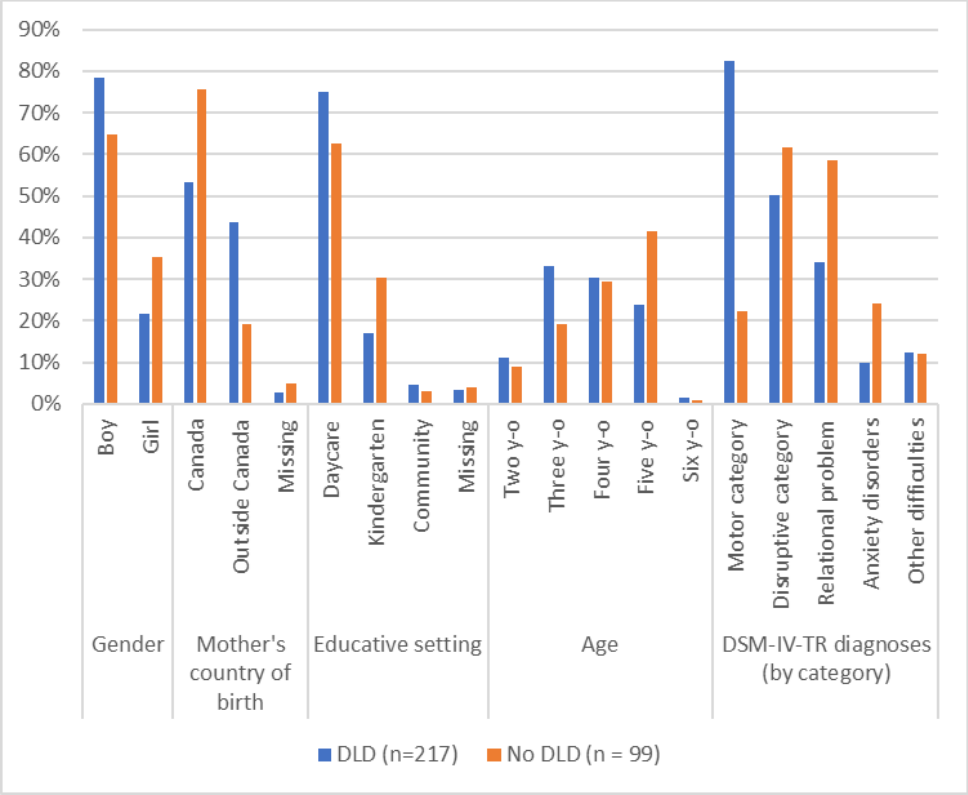
Measures

Social competence and behavior evaluation (SCBE) -French version (PSA; LaFreniere et al., 1997)

The SCBE is an educator/teacher report for children from 30 to 76 months. It comprises 80 items, divided into eight basic scales, each including a positive (competence) and a negative (problem) pole. Items are rated on a 0 to 5 Likert scale, where 5 corresponds to more positive behaviors and can be computed into three global scales: Social competence (40 positive items), Internalised (20 negative items), and Externalized problems (20 negative items). The good validity of the tool has been demonstrated not only in English but also in other languages, including French. Its psychometric qualities in the Quebec validation sample are considered very satisfactory for internal consistency (r = .79 to .91 depending on the scale), inter-rater reliability (r = .72 to .89), test-retest reliability of 2 to 5 weeks intervals (r = .74 to .87) and temporal stability after 6 months (r = .59 to .70). To focus on strengths rather than deficits, only the positive poles of the eight basic scales assessing SC (5 items each, 40 in total) were retained in the current study, namely the Calm (α = .65), Tolerant (α = .77), Prosocial (α = .77), Cooperative (α = .65), Joyful (α = .76),

Secure (α = .74), Autonomous (α = .58), and Integrated (α = .75) poles. Joyful, secure, autonomous, and integrated poles allow teachers to describe the child's affective well-being, social self-efficacy, and appreciation by the adult and other children; we postulated that together they correspond to Ashton's top layer of the model: Social adjustment. The calm, tolerant, prosocial, and cooperative poles of the SCBE were considered to measure Social functioning as they ask the teacher to describe the child's behaviors in context. A two-factor solution was favored based on an exploratory factor analysis (EFA) of the Social scale of SCBE, previously performed with the 85 children excluded from the final sample.

Article 3-Figure 3. Participant characteristics among DLD and No-DLD groups



Notes. Children can have many diagnoses; category frequencies include children with one or more diagnoses within the category. Diagnoses were not available for six children in the sample, all were in the DLD group. Those children had an SCBE and an SLP report on file, but no psychiatric report. Motor category included Developmental Coordination Disorder, sensory regulation disorder, and tics. Disruptive category included Opposition Defiant Disorder and Attention Deficit Hyperactivity Disorder. Relational problem category included relational problems, family troubles, and educational problems. Anxiety disorder included separation anxiety and anxiety not otherwise specified. Other difficulties included diagnoses such as encopresis, sleeping, or eating disorders.

Sociodemographic, psychiatric, and language information

Child sex, mother's country of birth (Canada or outside Canada), and type of educational setting (daycare or school) were collected in a questionnaire routinely sent to parents before the consultation. Diagnoses issued following a psychiatrist assessment were organized into categories congruent with the DSM-IV-TR's structure, which was the valid system at the time. Language capacities were coded based on speech-language pathologist (SLP) assessment reports. Children in the No-DLD group had either an SLP assessment report concluding the absence of significant difficulties or no suspicion of language difficulties reported from their clinical presentation and developmental history.

Analyses

Descriptive and preliminary analyses were completed in IBM SPSS (version 27). Bivariate associations between participants' socio-demographic, language abilities, and SCBE SC (positive poles) scores were verified to identify control variables to include in further analyses. Skewness and kurtosis were satisfactory for SCBE scores. To meet the postulate of normality necessary for the analyses, age was transformed using a two-step approach (Templeton, 2011).

Then, a multigroup confirmatory factor analysis (MG-CFA; first research question) and a multigroup structural equation model (SEM; second research question) were performed in IBM SPSS Amos (version 27). Missing data in the SCBE had been previously treated according to the author's instructions. Missing data found in sociodemographic information were addressed through the full information maximum likelihood approach. In the SEM, covariances with the Social functioning factor and directional arrows to the Social adjustment factor were drawn for each control variable (Collier, 2020).

Both in MG-CFA and MG-SEM, model fit was assessed by a relative chi-square test seeking a value under 3 ($\chi 2/df$), a Comparative Fit index seeking a value ≥ .90 (CFI), and a Root Mean Square Error of Approximation seeking a value ≤ .08 (RMSEA; ≤ .06 good, ≤ .08 acceptable, ≥.10 poor fit) (Hu and Bentler, 1999). For the MG-CFA, composite reliability (CR) was preferred to Cronbach's alpha as it could be a better alternative when using SEM (CR level; > .70 acceptable, > .80 better) (Hair et al., 2009). Convergent and discriminant validity of the constructs were examined through

Variance Average Extracted (AVE; > .50 is good, Fornell and Larcker, 1981) and Heterotrait-monotrait ratio of correlations (HTMT; examining the correlations within construct indicators as well as the correlations of indicators across constructs, the strict threshold being < .85, Henseler et al., 2015).

In multigroup analysis, measurement invariance is central to ensuring that the model holds in both samples, here in DLD and No-DLD children (Putnick & Bornstein, 2016). Measurement invariance is obtained in three steps (configural, metric, scalar) when there is a non-significant difference in fit indices values between the constrained and the unconstrained models according to Δ $\chi 2$ $p \geq .05$ (Collier, 2020; Tracey & Xu, 2017), Δ RMSEA ≤ 0.015 and Δ CFI ≤ 0.01 (Chen, 2007). First, configural invariance examines if the overall structure of the model is equivalent across groups, then metric invariance verifies if observed variables contribute to the latent construct to a similar degree across groups, and finally, scalar invariance verifies if mean differences in the latent construct capture all the mean differences in the shared variance of the observed variables. Invariance was also examined in the MG-SEM model by constraining specific relations, to allow testing whether one group or another had a stronger or weaker effect on it (Collier, 2020).

Results

Identification of two factors in the SCBE Social competence scale: Multi-group confirmatory factorial analysis (DLD = 217 and No-DLD = 99)

In this MG-CFA theory-driven model, illustrated in Figure 4, no modifications were made, except for the inclusion of three covariances between error terms, judged acceptable regarding the theoretical links between those pairs of indicators. Unconstrained model across groups had reasonably good fit results ($\chi 2$ = 94.52, df = 32; $\chi 2/df$ = 2.954, CFI = 0.955, RMSEA = 0.079). Examination of standardized residuals showed no sign of possible model misspecification. Fit results were judged satisfactory (CFI > .95, $\chi 2/df$ < 3, RMSEA < .08), as it was tolerated that one of the eight indicators loaded on its factor slightly under the .70 threshold reached (.66 for Autonomous in the DLD group and .66 for Joyful in the No-DLD group), considering that all items

were kept within the eight positive poles of the SCBE. Overall, factor loading showed that the calm, tolerant, prosocial, and cooperative positive poles of the SCBE-SC converged satisfactorily on the Social functioning latent variable, while the joyful, secure, autonomous and integrated positive poles converged well enough on the Social adjustment latent variable, quite similarly for both DLD and No-DLD groups. In both groups, factor loadings were all significant with p-values under .001, T-values from 8.42 to 13.51 in the DLD group, and from 6.09 to 9.89 in the No-DLD group. Composite reliability was good for the Social adjustment and the Social functioning factor, respectively .83 and .87 in the DLD group and .84 and .89 in the No-DLD group. As expected, both constructs of Social adjustment and Social functioning were highly correlated, respectively at .80 and .78 in the DLD and No-DLD groups, but collinearity was not an issue.

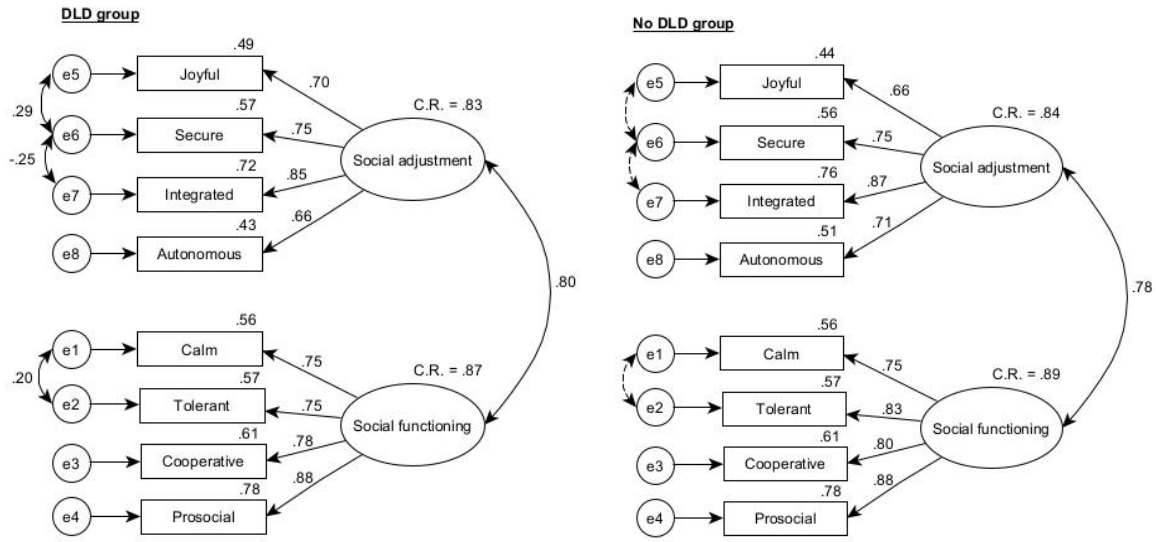
Convergent validity was good for the Social adjustment and Social functioning factors, with AVE respectively of .55 and .63 in the DLD and .57 and .66 in the No-DLD group, all above the threshold of .50 (Fornell and Larcker, 1981). All AVE within constructs were higher than the shared variance between constructs (.40 in the DLD group; .42 in the No-DLD group), which demonstrates discriminant validity. HTMT, a more stringent analysis, confirmed a good discriminant validity between the two constructs with a result of .759, below the strict threshold of .85 (Henseler et al., 2015). In sum, the results of the MG-CFA demonstrated empirical support for the two-factor solution in both the DLD and No-DLD groups.

MG-CFA invariance in DLD and No-DLD groups

From the outset, the CFA model was established in a multi-group analysis for DLD (n=217) and No-DLD (n=99) children. The configural invariance was supported, showing that the proposed factor structure worked for both clinical groups. The metric invariance was supported by non-significant test results, $\Delta\chi2 = 6{,}437$, $df = 6$, $p = .376$, $\Delta RMSEA = .006$, $\Delta CFI = 0$, showing that the meaning of constructs corresponded in both groups. This indicates that each positive pole contributes to the latent constructs equivalently in the DLD and No-DLD groups. Contrary to the configural and the metric invariance, the more stringent scalar invariance was not met for two of the three indicators, $\Delta\chi2 = 67{,}864$, $\Delta df = 14$, $p < .001$, $\Delta CFI = .039$, although $\Delta RMSEA = .005$ was satisfactory. Even partial scalar invariance was not reached, considering that constraining the

intercepts one by one showed invariance only for one of the eight indicators (joyful). This implies that while the positive poles contribute in the same manner to Social functioning and Social adjustment, equivalent mean scores are not found across DLD and No-DLD groups. Indeed, an examination of the descriptive statistics showed that the mean scores obtained at all the positive poles were lower for the DLD group.

Article 3-Figure 4. MG-CFA tested in AMOS



Notes. Ovals = latent variables, Rectangles = observed variables, Circles = error terms. Correlations are represented by double arrows. Dot-dashed lines depict non-significant correlations. Top-right values for endogenous variables are R-square. CR = Composite Reliability. Model Fit Statistics ($\chi2$ = 94.52, df = 32; $\chi2$/df = 2.954, CFI = .955, RMSEA = .079). Standardized factor loading estimates are significant at $p < .01$. The Prosocial and Secure items were aleatory constrained for identification purposes. T-values (DLD group / No-DLD group): Calm (12.40 / 8.42), Tolerant (12.59 / 9.89), and Cooperative (13.51 / 9.51) on Social functioning; Joyful (10.83 / 8.42), Integrated (10.05 / 7.29) and Autonomous (8.42 / 6.09) on Social adjustment.

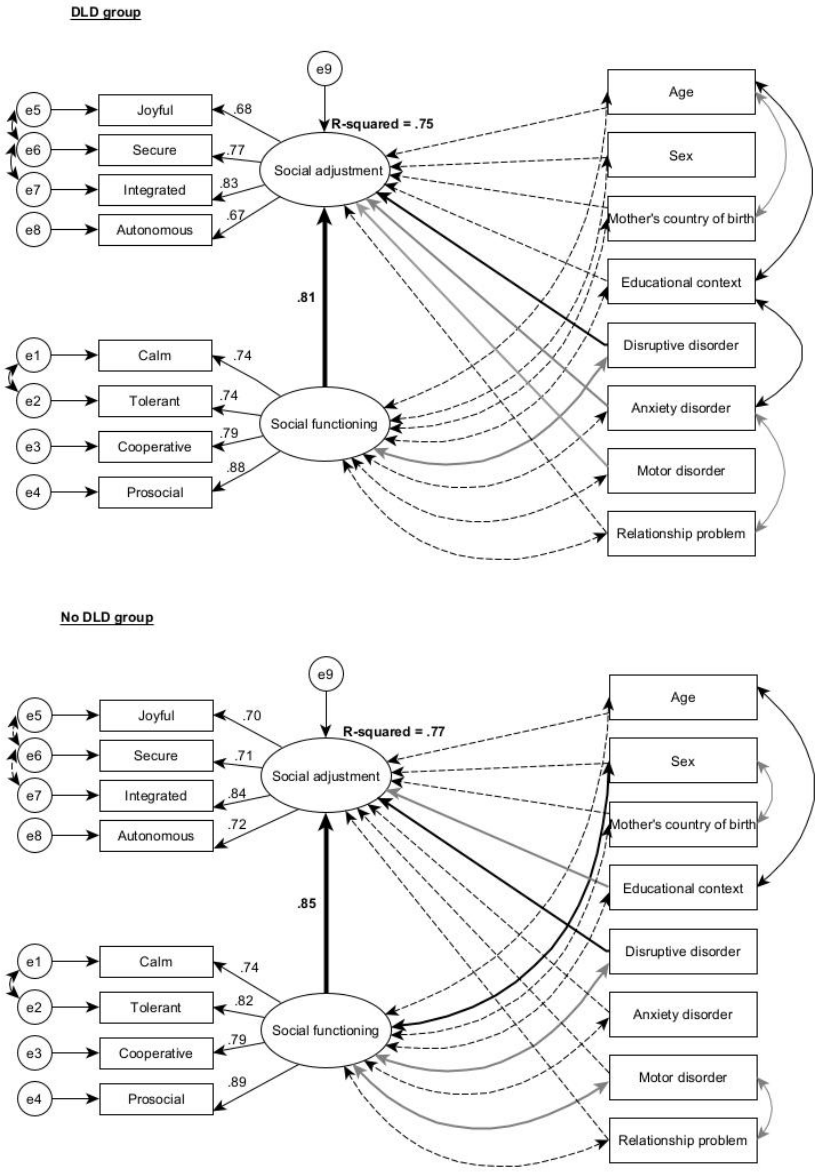
Full SEM model: relationship from Social functioning to Social adjustment in DLD and No-DLD clinical groups, with multiple variables controlled

The final model, illustrated in Figure 5, allowed controlling for the influence of child sex and age, mother's country of birth (Canada vs other), educational context (kindergarten vs daycare), and four psychiatric comorbidities (motor, disruptive, and anxiety disorders, and relational problems), while testing a directional relation from Social functioning to Social adjustment,

consistent with Ashton's theoretical model. Again, measurement invariance was tested to be sure that it was meaningful to compare the results obtained in the DLD and the No-DLD group for the full SEM model. Metric invariance was achieved, allowing comparison of standardized estimates between groups (Δχ2 = 7,592, Δ*df* = 6, *p* = .270, ΔRMSEA = .001, ΔCFI = .001). Similarly, constraining the relationship between the Social functioning and the Social adjustment factors showed that this relationship still worked similarly across the DLD and No-DLD groups (Δχ2 = 0.341, Δ*df* = 1, *p* = .341, ΔRMSEA = .00, ΔCFI = .001). Measurement invariance between DLD and No-DLD groups was also tested for each control variable, by constraining one by one their loading on the Social adjustment factor and their covariance with the Social functioning factor. Overall, results showed invariances for all of it, except for the covariance between child sex and the Social functioning factor (one criterion was not met, Δχ2 = 4.739, Δ*df* = 1, *p* = .029, while the invariance threshold was met according to the two others, ΔRMSEA = .001, ΔCFI = .002). To be stringent, the influence of sex within those two samples should be interpreted with caution.

As shown in Table 1, the direct effect of the Social functioning factor (treated as the independent variable) on the Social adjustment factor (the dependent variable, to which an error term was added) was significant before and after accounting for control variables, in both DLD and No-DLD groups. Including the control variables in the multiple-group structural model improved the goodness of fit as measured by the RMSEA, which dropped from .079 to .056, and the χ2/df, which dropped from 2.954 to 1.989. The CFI slightly decreased from .955 to .926, while remaining over the acceptable cut-off of ≥ .90. Overall, the SEM model fitted the data for both the DLD and No-DLD groups while controlling for all these characteristics. With control variables, the variance of Social adjustment explained by Social functioning increased from 65% to 75% in the DLD group, and from 60% to 77% in the No-DLD group.

Article 3-Figure 5. Direct relationship from Social functioning to Social adjustment for children with and without DLD, accounting for control variables



Notes. Model fit: $\chi 2 = 254.603$, df = 128; $\chi 2/df = 1.989$, CFI = 0.926, RMSEA = 0.056. Standardized estimates are significant at $p < .01$. Dot-dashed lines depict non-significant relationships (single arrows) or covariances (double arrows); black solid lines depict significant positive relationships or covariances at $p < .05$ or lower; grey solid lines depict significant negative relationships or covariances at $p < .05$ or lower. Higher scores on indicators indicate higher levels of Social functioning and Social adjustment. Boy = 0/Girl = 1; Mother born in Canada = 0/Outside = 1; Daycare = 0/Kindergarten = 1; Absence of diagnosis = 0/Presence =1. Age is continuous. Only significant covariances between control variables are depicted for more clarity of reading.

Article 3-Table 1. Multi-group structural model results

Relationships							*Group difference*
		Group	*Standardized Estimates*	*t-values*	*p*	R^2	
Before accounting for control variables	**Social functioning→ Social adjustment**	DLD	.804	9.751	<.001	.646	Δχ2 = 0.427
		No-DLD	.776	6.435	<.001	.602	Δ*df* = 1
							p = .513
Accounting for control variables	**Social functioning→ Social adjustment**	DLD	.806	10.283	<.001	.751	Δχ2 = 0.341
		No-DLD	.854	6.312	<.001	.768	Δ*df* = 1
							p = .341

Note. N =217 in the DLD group and N = 99 in the No-DLD group. Model Fit Statistics before accounting for control variables (χ2 = 94.52, df = 32; χ2/df = 2.954, CFI = .955, RMSEA = .079). Model Fit Statistics after accounting for control variables (χ2 = 254.603, df = 128; χ2/df = 1.989, CFI = .926, RMSEA = .056

Concerning the control variables, having a diagnosis of a disruptive problem influenced positively the Social adjustment factor for both the DLD (p = .017) and the No-DLD (p = .02) groups. Having a diagnosis of anxiety (p = .002) or motor disorder (p < .001) influenced negatively the Social adjustment for the DLD group only. Being in a school setting instead of daycare influenced negatively the Social adjustment for the No-DLD group only (p = .035). Concerning Social functioning, significant negative covariances were observed with a disruptive disorder diagnosis for both the DLD (p = .009) and No-DLD groups (p = .004), while a negative covariance between Social functioning and diagnosis of motor disorder (p = .014) and a positive covariance between Social functioning and being a girl (p = .001) were observed only in the No-DLD group (p = .001). No significant effects or covariances were observed for age, mother's country of birth, or a psychiatric diagnosis in the relational problem category in the final model, for none of the factors in either group.

Discussion

The first objective of the present study was to test in a clinical sample whether two factors corresponding to Social adjustment and Social functioning from Ashton's SC model could be identified in the teacher-reported SCBE, using only the positive poles from the SC scales. The second objective was to test Ashton's hierarchical model by verifying the extent to which Social adjustment was explained by Social functioning for children with and without DLD, and if controlling for age, gender, educational context, mother origin, motor, and emotional, behavioral, or relational problems increased the proportion of Social adjustment explained. First, the MG-CFA provided support for the theoretical two-factor model. The items included in both factors appeared to be consistent with the two higher levels described by Ashton's hierarchical model for assessing SC, namely Social adjustment, and Social functioning. Social adjustment was represented here by ratings on the joyful, secure, integrated, and autonomous positive poles, while social functioning was represented by the ratings on the tolerant, calm, prosocial, and cooperative poles of the SCBE. These two latent factors derived from Ashton's model were identified among children presenting various difficulties and referred to a specialized clinic, whether they presented with or without DLD. To our knowledge, this is the first time that only positive poles of the SCBE have been studied, especially in a clinical population. Second, the

directional MG-SEM model reflecting the hierarchical model developed by Ashton fit the data for both the DLD and No-DLD clinical groups. Knowing that both factors came from the same teacher report, the strong relationship found from Social adjustment to Social functioning is not surprising, but the results have demonstrated that Social functioning alone is not sufficient to explain Social adjustment. As hypothesized, controlling for personal and environmental variables increased the explanatory variance for both groups, while the directional relationship from Social functioning to Social adjustment remained significant. The results also revealed that the significance and direction of associations between control variables and factors of interest differed between groups, indicating the importance of testing which ones are relevant, depending on the child's clinical presentation and diagnoses. The present study not only support Ashton's hierarchical model of assessment but also provide important information to practitioners planning interventions to improve children's social inclusion.

Social adjustment and Social functioning: two separate factors

SC has been described as a multilevel construct for more than 30 years (see Cavell, 1990). To our knowledge, this is the first study to have identified two separate latent factors reflecting separate constructs of SC, theoretically derived from a conceptual model of SC suggested to orient assessment to be cost-efficient. Although both factors were derived from the same teacher report, good discriminant validity was found. The first factor, Social adjustment, reflects the social satisfaction of the child, peers, and adults (Ashton, 2018). Using only the positive poles from the SCBE, a child perceived by his or her teacher as joyful, confident, autonomous from adults, and integrated with peers would be considered to have good social adjustment. Social functioning, the second layer of Ashton's hierarchical model (2018), indicates behaviors actualized by the child in a context of socialization, which was operationalized here by grouping being tolerant, calm, prosocial, and cooperative in interactions with peers and adults. Results from the present study allow distinguishing between aspects of SC that reflect the satisfaction of the different people involved in a given context (social adjustment) from behaviors actualized by the child in the interaction (social functioning). When SC is defined as a catch-all concept, service providers are more challenged to prioritize intervention goals to facilitate child integration. This first-step validation of the hierarchical model will allow practitioners to more specifically target aspects of

SC that should be the focus of interventions, involving not only the child but also the communication partners and context in daycare or kindergarten. Moreover, the present results allow focusing solely on the strengths and positive aspects to be developed or reinforced, without needing to observe deficits or problems. It is in favor of a positive approach to intervention and is congruent with the principles of inclusive education (Joy, 2016).

A model for children with various clinical profiles

The multi-group CFA showed that the two-factor model held for children facing different developmental, emotional, and behavioral challenges whether they were diagnosed with DLD or not and that the same indicators contributed to each factor in both groups. Scalar invariance was not reached, meaning that scores could not be directly compared between children without DLD and children with DLD, with the latter having lower mean scores than the former (Cieciuch et al., 2019; Tracey & Xu, 2017). It appears to be consistent with the literature documenting that children with DLD experience issues regarding SC (Fujiki et al., 1999; McCabe, 2005), but it is an important contribution of this study to compare DLD children to another clinical sample, knowing that the existing literature mainly compared them to typically developing children (Andrés-Roqueta et al., 2016; Forrest et al., 2018; Fujiki et al., 1999). To our knowledge, the existing literature comparing the SC of children with DLD with other clinical groups is scarce, mainly about school-age children or older, within small samples (Helland & Helland, 2017; Howlin et al., 2000). Replication with other clinical samples is therefore warranted.

Social adjustment as the top layer of a hierarchical model

The SEM verified that Social adjustment was largely but not entirely predicted by Social functioning when preschoolers were observed interacting with their peers, following Ashton's theory. Demonstrating that 35-40% of Social adjustment cannot be explained by Social functioning alone is an important outcome of this study. If the goal is to optimize child, peer, and adult satisfaction in group interactions, it seems more effective to target needs by measuring the Social adjustment factor first, not the Social functioning factor or overall SC at the SCBE. Still, the strong association found between both factors supports the recommendation that practitioners only need to assess Social functioning when a problem is detected with Social adjustment

(Ashton, 2018). Per this model, an adequate Social adjustment in the initial step of assessment would avoid unnecessary testing of individual abilities. In the current study, the variance of Social adjustment explained by Social functioning was similar in both groups, and the relationship from Social functioning to Social adjustment held both for children with DLD and without DLD while controlling for the influence of personal, familial, and clinical factors, even if those also explained a significant part of Social adjustment. Additional support found in other populations of children would allow a similar theoretical framework of SC to be shared among all those involved with young children with diverse educational needs.

The SEM results also indicated that risk and protective factors do improve the accuracy of the model, albeit differently according to the presence or absence of a DLD diagnosis. As hypothesized, the control variables improved the fit of the model and contributed 10% (DLD group) to 17% (No-DLD group) of the variance. This is congruent with the high interindividual variability of SC documented in DLD children over decades (Fujiki et al., 1999) and demonstrates the importance to consider the child holistically, within his/her context (Shean et al., 2005). Thus, the model applies to children with various adaptation challenges, and, as Ashton (2008) suggests in her model, the personal and environmental characteristics to be considered should be reflective of the clinical population observed.

This study also demonstrates that an existing observational tool, the SCBE, allows applying Ashton's model of distinct social adjustment and social functioning, even if it was originally developed to assess SC in another, primarily affective, theoretical framework (LaFreniere & Dumas, 1996). This argues for its versatility and its value to educators and professionals involved with children, suggesting further application.

Strengths, limitations, and future research directions

A major strength of this study is that it validates a theoretical model of SC in a real-world clinical population with diverse backgrounds, for which diagnoses were established in a multi-method, multi-observer, and multi-settings manner. Furthermore, these findings were replicated in two clinical subgroups of preschoolers, which are larger in size than many studies. They add to the scarce knowledge in the early childhood population that visits the clinic. It is also very rare to

compare subgroups of the same population but with different diagnoses. It is of great value because it is known that SC is important for all children with developmental difficulties, but it is not known whether the same aspects of SC are affected and influenced by the same factors. The current study is the first to have well-documented and controlled for the presence of multiple comorbidities, so the results appear to be quite robust. The inclusion of control variables in an SEM model supported the idea that not necessarily the same factors are associated with social adjustment depending on the clinical subgroup, which opens the door for further research that may indicate whether we should rely on different observations depending on the population we are working with.

Another strength is that testing Ashton's theoretical model with a well-known existing teacher's observation tool increases its immediate applicability in the field. The SCBE was not developed to measure the specific constructs of Social adjustment and Social functioning, but to assess SC in general, which gives the results a high ecological value. The model was verified by considering only positive valences, from a positive integration perspective that encourages a focus on strengths to be developed rather than deficits to be corrected. The chosen method documents teachers' perceptions in an important context of young children's socialization, the daycare or kindergarten classroom. It shows that educators can efficiently contribute to identifying and improving young children's social adjustment, even when they encounter developmental, emotional, and behavioral challenges. This could increase collaboration between teachers and health professionals and provide a concrete way to prioritize mutual satisfaction in a social context rather than viewing individual social skill improvement as a goal in itself.

In the current study, the teachers who completed the SCBE came from a variety of kindergarten or daycare centers, and the lack of recruitment as well as the width of the sample suggests that their characteristics may be similar to the pool of teachers in the Canadian urban setting where the clinic was located. However, this could not be verified because no sociodemographic information was collected about them. Future studies could collect SCBE data on children with difficulties attending specific daycare centers or classrooms, which would allow to look at teacher-level factors and control their impact on reported social adjustment and social functioning.

A serious shortcoming of this study is that the high proportion of variance of Social adjustment explained by Social functioning in the SEM model may partly be explained by the shared method variance because all indicators were rated by the educator itself. Because of nonspecification issues, it was not possible to introduce a common method factor in the model tested (Collier, 2020). Even so, it showed that a significant part of Social adjustment could not be explained by Social functioning and that other personal and environmental factors contribute significantly to the model. To test further Ashton's theoretical model of SC, future research should include other measures of Social adjustment and Social functioning, for example, peer nominations or a child's self-assessment of satisfaction. Relatedly, the use of a cross-sectional design prevents determining for sure the directionality of the association between social functioning and social adjustment. To be possible, a longitudinal design would be necessary. Nonetheless, the current study aimed to test whether Ashton's theory-driven model could be confirmed. The results allow the clinician to be confident that assessing the social adjustment first, as prone by Ashton (2018), is relevant to identify the children for whom improving effectiveness in interaction would be necessary.

In the current study, the number of participants was not sufficient to perform item-by-item analyzes, which prevented optimizing the SCBE eight positive poles' internal consistencies. The number of girls being low in this sample, especially in the DLD group, is also a limit to an informed analysis according to gender. The lack of significant findings regarding gender could be due to a lack of power in the DLD group. Those limitations should be addressed in future research as well as replicated in other samples. It would be worthy to compare an individual to himself or herself at different measurement times, for example, to verify if an intervention in daycare allowed children with DLD to progress regarding their Social adjustment and their Social functioning. Through longitudinal models, this two-factor model could help measure long-term children's adaptation.

Conclusion

In sum, the current study is a first step in examining how the broad concept of SC, as observed in a daycare or kindergarten context, can be refined, and interpreted through a theoretical model

distinguishing between the child's social functioning and the more systemic social adjustment. The adequacy of the model in two distinct groups of children presenting significant enough challenges to consult in a child psychiatry clinic encourages further exploration of social adjustment from an inclusive perspective. From that framework point-of-view, it is encouraged to prioritize strengthening the SC of children in real-life settings and to determine the necessity to assess and address personal skills and capacities, along with environmental factors, only if needed to improve social adjustment. This top-down and positive model of assessment could change the way services are offered by early childhood professionals and help move away from the medical model that focuses on assessing children's disabilities before linking them with their daily functioning. The result of the current study highlights the relevance of a strength-based definition of SC to optimize its assessment and could help establish intervention goals focused on enhancing social adjustment and satisfaction, in line with the inclusion paradigm that advocates for less focus on individual characteristics and behaviors and more on environmental facilitators and multi-person interactions in a specific context (Murphy, 2021; UNESCO, 2017).

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Chapitre 5 – Discussion

Le but principal de cette thèse était d'éclairer la pratique d'évaluation orthophonique auprès d'enfants âgés de 2 à 5 ans aux prises avec un trouble développemental du langage (TDL), en s'intéressant plus particulièrement à celles et ceux qui fréquentent un service de garde éducatif à l'enfance (SGEE) ou une classe préscolaire et sont référés vers des services spécialisés interdisciplinaires. La question de départ était la suivante : *Est-il possible pour l'orthophoniste d'optimiser l'évaluation du jeune enfant en se centrant moins sur ses déficits et davantage sur sa participation sociale, en collaboration avec la famille, le personnel éducateur et les autres intervenants impliqués*? En considérant les enjeux liés aux critères diagnostiques du TDL établis par le consensus CATALISE (Bishop et al., 2017), cette recherche a ciblé trois objectifs généraux et voulu y répondre en étudiant une cohorte d'enfants référés en bas âge dans une clinique psychiatrique ainsi qu'en examinant la littérature interdisciplinaire. Chaque étude ayant fait l'objet d'une discussion spécifique dans les articles rapportés aux chapitres deux, trois et quatre de cette thèse, la présente section propose d'en dégager un raisonnement d'ensemble. Ainsi, un rappel des objectifs sera suivi d'une discussion générale des résultats visant à les intégrer et à les situer dans un cadre élargi. Le présent chapitre inclut également une analyse globale des forces et limites de la thèse, et discute des retombées cliniques et des perspectives de recherche qui en ressortent.

Rappel des objectifs ayant motivé chacune des études

D'abord, le premier objectif était de vérifier la stabilité des atteintes langagières documentées en petite enfance par l'orthophoniste, dans un échantillon d'enfants référés en clinique spécialisée entre 2006 et 2016. Lié au premier critère diagnostique du TDL, qui consiste à établir la présence d'atteintes langagières persistantes ou susceptibles de persister dans le temps, cet objectif était justifié par le fait que les ressources orthophoniques en petite enfance sont régulièrement consacrées à réévaluer les capacités langagières des enfants référés avant l'âge de quatre ans. En effet, une importante instabilité des atteintes langagières est documentée à cet âge dans les études populationnelles et peu de données sont disponibles en ce qui concerne les populations

cliniques. L'étude présentée au chapitre deux de cette thèse a été développée pour combler ce besoin. Plus spécifiquement, nous avons comparé les conclusion de deux évaluations orthophoniques complètes disponibles dans les dossiers de 149 enfants référés dans une clinique ambulatoire psychiatrique à l'âge préscolaire afin de vérifier la stabilité globale de la classification concernant le statut langagier (typique ou déficitaire), de vérifier si la stabilité était moins grande pour les enfants de moins de quatre ans et pour les enfants présentant des difficultés langagières plus légères à la première évaluation, et d'explorer si d'autres caractéristiques liées à l'enfant, à la famille ou au contexte évaluatif semblaient affecter la stabilité du statut langagier chez ces enfants recherchant des services multidisciplinaires à l'âge préscolaire.

Ensuite, le deuxième objectif de cette thèse était de recenser dans la littérature interdisciplinaire les méthodes d'évaluation de la participation pertinentes aux enfants de 2 à 5 ans, en s'intéressant particulièrement au domaine de la socialisation. Cet objectif était motivé par un enjeu nommé lors de la publication des critères diagnostiques du TDL (Bishop et al., 2017), à savoir que le manque d'outils disponibles pour renseigner les impacts fonctionnels pouvait entraver leur documentation par l'orthophoniste. Parallèlement, la faible proportion d'outils utilisés à cette fin lors de l'évaluation des enfants d'âge préscolaire par les orthophonistes avait aussi été documentée (Cunningham et al., 2017). Par l'étude rapportée au chapitre trois, nous avons donc voulu vérifier quelles étaient les mesures citées à la même époque dans la littérature publiée dans les domaines de la santé physique et mentale, du développement, de la réadaptation et de l'éducation à la petite enfance. Les mesures d'intérêt étaient celles évaluant des concepts liés aux interactions sociales et au fonctionnement quotidien, et ce, chez les enfants âgés de deux à cinq ans. Par cette revue de la portée, nous avons cherché à savoir si les professionnels de la petite enfance, particulièrement les orthophonistes, peuvent optimiser leur processus d'évaluation en s'appuyant sur des connaissances transdisciplinaires.

Finalement, le troisième objectif de cette thèse visait à tester l'applicabilité d'un modèle novateur pour raffiner l'appréciation de la compétence sociale en SGEE ou en classe préscolaire, en collaboration avec le personnel éducateur et enseignant. L'évaluation de la compétence sociale pouvant être une porte d'entrée pertinente aux orthophonistes voulant documenter la participation de l'enfant, nous souhaitions proposer un moyen concret aux orthophonistes de

documenter davantage le critère deux du TDL (impacts fonctionnels, notamment sur les relations sociales de l'enfant au quotidien), tout en établissant des pratiques collaboratives avec d'autres personnes-clés dans le domaine de la petite enfance. Pour atteindre cet objectif, nous avons vérifié dans l'étude rapportée au chapitre quatre si le modèle d'évaluation hiérarchique de la compétence sociale d'Ashton (2018) était soutenu empiriquement par les données recueillies auprès de deux groupes de jeunes enfants ayant consulté entre 2006 et 2016 dans une clinique spécialisée ambulatoire (avec TDL vs sans TDL), pour lesquels le personnel éducateur ou enseignant avait rempli le Profil Socio-Affectif de l'enfant (PSA; LaFreniere et al., 1997). En utilisant l'échelle de compétence sociale du PSA, nous avons voulu vérifier par un traitement statistique si deux facteurs distincts pouvaient être identifiés à partir des observations du personnel éducateur, où l'un correspondrait à l'adaptation sociale de l'enfant dans son contexte éducatif à l'enfance (se reflétant par la satisfaction de l'enfant, de ses pairs et des adultes dans l'interaction sociale) et l'autre correspondrait à son fonctionnement social (se reflétant par les comportements de l'enfant dans l'interaction sociale). Nous avons ensuite voulu tester l'ajustement du modèle et vérifier quelle proportion de l'adaptation sociale pouvait être expliquée par le fonctionnement social lorsque l'influence de l'âge, du sexe, du contexte éducatif, de l'environnement familial, de la motricité et des difficultés émotionnelles ou comportementales étaient contrôlées. Ceci visait à vérifier si les résultats allaient dans le sens de la théorie d'Ashton (2018). Selon celle-ci, les deux facteurs seraient hiérarchiquement liés et l'adaptation sociale serait mieux expliquée lorsque le fonctionnement social et d'autres caractéristiques personnelles et environnementales sont pris en compte. L'étude rapportée au chapitre quatre visait également à vérifier si le modèle fonctionnait différemment dans deux groupes d'enfants d'âge préscolaire rencontrant des difficultés de fonctionnement associées ou non à des difficultés langagières, étant donné le manque de données antérieures comparant des sous-groupes cliniques.

Discussion générale des résultats

En portant un regard global sur les résultats de cette thèse, il est possible de dégager un raisonnement de fond pouvant soutenir une remise en question du paradigme d'évaluation du TDL le plus approprié aux enfants de deux à cinq ans. Nous élargissons ci-bas la discussion des résultats en lien avec l'évaluation d'atteintes langagières persistantes ou susceptibles de persister

(critère un du TDL) et avec la documentation des impacts sur le fonctionnement quotidien de l'enfant, notamment en regard des relations sociales et des progrès éducatifs (critère deux du TDL), tout en faisant ressortir l'intérêt d'une approche interdisciplinaire, centrée sur les besoins et sur les forces de l'enfant, de la famille et de son entourage. Nous proposons ensuite de réfléchir la démarche d'évaluation de l'enfant dans une perspective plus globale, en proposant le constat que diverses postures conceptuelles existent et peuvent influencer les décisions cliniques entourant ce processus.

Discussion des résultats en lien avec l'évaluation d'atteintes persistantes

Les résultats de l'étude rapportée au chapitre deux de cette thèse documentent que la présence ou l'absence de difficultés langagières demeure très stable (94%) dans l'échantillon d'enfants référés en clinique spécialisée durant la petite enfance. Suivant ces résultats, il appert que l'expertise des orthophonistes permet une évaluation précise et pertinente du profil langagier de l'enfant d'âge préscolaire qui présente des difficultés de fonctionnement. Ceci est congruent avec le sentiment de compétence déjà rapporté par les orthophonistes en regard de leur capacité à identifier les enfants présentant un TDL, en considérant leur portrait langagier mais également d'autres caractéristiques, dans une démarche clinique holistique mais parfois implicite, se basant sur leur expérience (Thomas et al., 2019).

Cette étude permet de faire ressortir un constat important : chez ces enfants qui sont référés vers des services spécialisés avant l'entrée à l'école, plus les atteintes langagières observées initialement sont étendues et sévères, plus leur persistance est prévisible par l'orthophoniste, peu importe leur âge au moment de cette première évaluation. Rappelons que dans l'échantillon examiné, aucun des 64 enfants âgés de moins de quatre ans lors de la première évaluation orthophonique n'a changé de classification. Par ailleurs, la présence de difficultés expressives plus légères à la première évaluation s'est révélé un facteur associé à une plus grande probabilité d'instabilité, ce qui devrait être considéré par les orthophonistes lors de l'émission d'un pronostic concernant la persistance attendue des atteintes. Globalement, le très haut niveau de stabilité observé au niveau de la classification est cohérent avec les facteurs de persistance identifiés dans la littérature, qui ont été résumés à l'attention des orthophonistes par Archibald (2021),

notamment dans le tableau « Décisions diagnostiques : TDL ou difficultés langagières chez les enfants de moins de 5 ans » récemment traduit en français et diffusé par l'OOAQ (2022). À la lumière des résultats de notre étude, l'importance du facteur « âge de l'enfant au moment de l'évaluation » pourrait être réfléchie et nuancée relativement à celle du facteur « composantes langagières affectées ». En cumulant davantage de données sur les caractéristiques développementales, émotionnelles et comportementales des enfants comme nous l'avons fait dans le cadre de notre étude, l'ajout d'un indicateur concernant la présence de cooccurrences développementales et comportementales pourrait aussi éventuellement être envisagé. Somme toute, les outils cliniques mis à la disposition des orthophonistes pour soutenir leur démarche évaluative du TDL au cours des dernières années apparaissent utiles et pertinents en regard de la démarche globale et du critère un énoncé par CATALISE, mais méritent encore d'être enrichis par des nouvelles données probantes.

En somme, les résultats de l'étude rapportée au chapitre deux n'indiquent pas qu'il est nécessaire d'évaluer à répétition les capacités langagières des enfants référés vers des services spécialisés durant la période préscolaire, car la sévérité des atteintes semble l'emporter sur le facteur âge. Il importe de nuancer l'interprétation des résultats obtenus en considérant que les conclusions orthophoniques analysées ont toutes été rédigées avant la publication de CATALISE. Alors que la terminologie employée par les orthophonistes était variable, les conclusions contenaient pour la plupart une estimation des niveaux de sévérité des atteintes réceptives et expressives, comme il était en vigueur de le faire à l'époque. La fermeture de la clinique spécialisée en 2016 n'ayant pas permis d'inclure des dossiers dont la conclusion orthophonique aurait été rédigée après la publication de CATALISE, il serait intéressant de consulter des rapports rédigés entre 2017 et aujourd'hui. Ceci pourrait permettre de documenter les changements provoqués par la clarification des critères et de la terminologie liés au TDL, ainsi que les délais qui auront été nécessaires avant que cela se reflète dans les conclusions orthophoniques au Québec. Néanmoins, il demeure pertinent de souligner que la décision de réévaluer ces enfants avant l'école devrait être justifiée cliniquement par d'autres critères que l'âge et pas uniquement pour documenter la persistance des atteintes déjà observées. Il ne faut pas oublier que des difficultés langagières documentées en bas âge peuvent justifier une offre de services, même si les risques

de persistance des atteintes correspondant à un TDL ne sont pas établis. Selon le guide de référence du *Profile of Preschool Communication -A tool for the collection of holistic data in preschool SLP systems* (PPC; Cunningham, 2019), la démarche suggérée aux orthophonistes ontariennes offrant des services en petite enfance n'exige pas de différencier les difficultés langagières du trouble de langage; l'organigramme de Bishop et al. (2017) y a même été modifié pour inclure « Difficulty or Disorder » dans les mêmes boîtes (Cunningham, 2019, p.3). En ce sens, l'orthophoniste doit juger de la pertinence d'une évaluation selon son utilité en regard de l'intervention.

Discussion des résultats en lien avec l'évaluation des impacts fonctionnels

Dans cette perspective, l'optimisation des pratiques centrées sur la participation sociale nous a semblé une avenue à privilégier pour bonifier l'évaluation du TDL chez les enfants de cinq ans et moins. Le deuxième critère du TDL énoncé par CATALISE, c'est-à-dire la présence d'impacts significatifs sur les relations sociales et les progrès éducatifs de l'enfant au quotidien, rejoint la préoccupation des orthophonistes de soutenir le fonctionnement des enfants vus en intervention. Voulant rendre explicite la démarche d'intervention auprès des enfants d'âge préscolaire, Morgan et al. (2019) ont consulté 245 orthophonistes britanniques et proposé que les objectifs de thérapie abordaient trois grandes catégories: 1) les domaines de déficiences et de compétences de l'enfant, 2) les compétences fonctionnelles et le transfert, 3) le support aux adultes pour créer un environnement propice à la communication (Morgan et al., 2019, p. 959, traduction libre). Alors que la première et la troisième catégories ont fait l'objet de plusieurs travaux en orthophonie, les compétences fonctionnelles ont été moins étudiées dans cette discipline.

Selon des données récentes, ce qui est considéré comme étant un objectif fonctionnel, ou centré sur la participation de l'enfant, est loin d'être identique pour des orthophonistes sur le terrain et des personnes chercheuses dans ce domaine, même lorsque la Classification internationale du fonctionnement, du handicap et de la santé (CIF; OMS, 2001) est employée (Kwok et al., 2022). L'une des avenues à explorer pour mieux identifier les objectifs d'intervention visant les compétences nécessaires au fonctionnement quotidien consiste à optimiser l'évaluation de ces

aspects. Selon l'analogie proposée par Brinton et al. (2021), la trajectoire des services offerts à l'enfant doit être planifiée à la manière d'un itinéraire calculé par GPS, exigeant à la fois un point de départ et le point d'arrivée souhaité. Les études s'intéressant au devenir des personnes ayant grandi avec un TDL démontrent de plus en plus clairement que leur qualité de vie ne dépend pas directement de la sévérité des atteintes langagières mais davantage de la façon dont ils arrivent à maintenir des relations personnelles gratifiantes, à devenir indépendantes et à remplir les rôles sociaux correspondant à leur âge et leur statut (Conti-Ramsden et Durkin, 2015). S'il appert essentiel de s'intéresser à leur participation sociale comme point d'arrivée, cela sous-tend également la nécessité d'en documenter le point de départ.

Revue de la portée interdisciplinaire recensant les mesures existantes (chapitre trois)

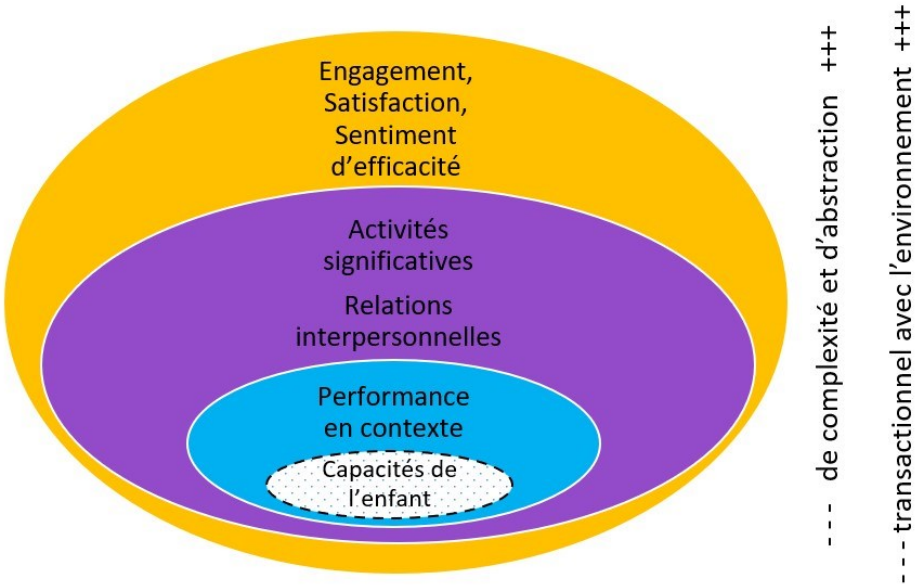
La revue de la portée rapportée au chapitre trois de cette thèse a permis de retenir 480 publications d'intérêt pour les orthophonistes voulant s'inspirer des mesures employées dans diverses disciplines pour documenter le fonctionnement de l'enfant de deux à cinq ans. En effet, ces publications ont été rédigées par des auteures et auteurs affiliés dans 37 pays aux domaines de la médecine, de la psychologie, de la réadaptation mais également de l'éducation, de la santé publique et d'autres disciplines telles que la musicothérapie. Dans ces publications parues entre 2014 et 2019, 651 mentions d'évaluation de concepts liés à la participation, notamment dans le domaine de la socialisation, ont été recensées et ont permis d'identifier 186 mesures différentes applicables aux enfants de moins de cinq ans. Cependant, la grande majorité de ces mesures étaient citées à une seule ou à deux reprises, alors que seulement 11 mesures étaient citées dix fois ou plus. Les résultats détaillés au chapitre trois nous ont amené à conclure que les défis reliés à l'évaluation des atteintes fonctionnelles par l'orthophoniste ne semblent pas s'expliquer par un manque d'outils disponibles pour apprécier les activités quotidiennes et la socialisation de l'enfant, mais plutôt par un manque d'alignement des concepts et de leur opérationnalisation dans les professions de la petite enfance.

La liste des mesures recensées permet de constater que l'évaluation du fonctionnement de l'enfant d'âge préscolaire n'est pas monolithique et que ses multiples dimensions ne sont pas aisées à définir. L'utilisation d'un modèle théorique qui transcende les disciplines, comme la CIF (OMS, 2001), est une avenue favorable à l'emploi d'un langage commun et à une meilleure

communication entre les parties impliquées dans la vie de l'enfant. Par ailleurs, l'implémentation d'un modèle unique n'est pas achevée, et il appert nécessaire de vivre avec la multiplicité des concepts pour bonifier dès aujourd'hui les services offerts en s'inspirant de ce qui se fait au-delà du domaine de l'orthophonie. La consultation de nombreuses publications issues de différentes disciplines nous a amené à percevoir que les différents concepts rattachés au fonctionnement de l'enfant d'âge préscolaire pouvaient être positionnés en regard de leur niveau de contextualisation, progressant en termes de complexité. Cette proposition, illustrée à la Figure 1, s'inspire de la théorie bioécologique et du modèle processus-personne-contexte-temps (PPCT) de Bronfenbrenner (1979; Bronfenbrenner et Morris, 2006; Navarro et al., 2021; Xia et al., 2020). Selon Bronfenbrenner, l'influence réciproque et prolongée de différents facteurs liés aux personnes et aux contextes crée une synergie dans les processus d'interactions nécessaires au développement de l'enfant. Si les concepts d'intérêt mesurant le fonctionnement de l'enfant sont toujours la résultante d'une synergie de ce type, nous postulons qu'elle appert plus faible pour certains ou plus forte pour d'autres. En ce sens, la Figure 1 propose de hiérarchiser trois grands niveaux de concepts pouvant correspondre à la définition de la participation, c'est-à-dire « l'implication de l'individu dans une situation de la vie réelle » (OMS, 2007, p.xviii), en les positionnant selon le niveau de complexité qu'ils peuvent représenter. Plus près des capacités individuelles de l'enfant se trouve la performance de l'enfant observée en contexte de vie réel. À ce niveau, l'observation du fonctionnement de l'enfant est souvent effectuée en regard de tâches simples, mais diffère de l'évaluation des activités par la contribution des caractéristiques propres à l'environnement de l'enfant. Bien que la performance puisse différer des capacités observées lors de tests standardisés, il est attendu qu'elle y soit liée de façon assez proximale, et que l'influence réciproque des différents facteurs liés aux personnes et aux contextes sur la résultante observée représenterait une synergie plus faible. Le deuxième niveau de concepts appréhende le fonctionnement de l'enfant dans des situations plus complexes, où la part des différents facteurs personnels et environnementaux est potentiellement plus grande et plus difficile à distinguer, en raison d'une synergie plus importante. Finalement, d'autres concepts liés à l'évaluation du fonctionnement s'avèrent encore plus distaux des capacités de l'enfant, et sont le fruit d'ensemble des facteurs personnels et environnementaux, s'étant influencés mutuellement sur

une longue période de temps. L'appréciation de l'enfant par ses pairs ou la satisfaction de l'enfant à fréquenter un milieu de garde en sont des exemples. À ce niveau, la synergie serait forte et les impacts des différents facteurs sur la résultante observée seraient difficiles à déterminer, le tout s'avérant plus grand que la somme des parties (Bronfenbrenner et Morris, 2006). Ainsi, selon la hiérarchisation proposée à la Figure 1, plus les concepts évalués se situent près du niveau des capacités de l'enfant, plus les pratiques unidisciplinaires dans une approche individuelle expert-patient peuvent y répondre. Cependant, il s'avère de plus en plus nécessaire de travailler en équipe et de laisser place au point de vue de l'enfant, de sa famille et de ses adultes-clés pour apprécier les cercles extérieurs, émettre des objectifs s'y rapportant et évaluer les résultats d'une intervention à ce niveau, puisqu'il serait ardu d'identifier l'impact d'un seul facteur (par exemple, la maîtrise d'habiletés langagières) sur les concepts s'y trouvant.

Discussion - Figure 1. Hiérarchisation des concepts liés au fonctionnement, s'inspirant de la théorie de Bronfenbrenner



Nous soumettons l'idée que les orthophonistes évaluant les impacts fonctionnels du TDL s'intéressent généralement davantage à la performance en contexte, dont le moindre niveau de complexité répondrait davantage aux exigences d'un modèle médical qui tente d'établir des liens de causalité entre les déficits langagiers observés et les impacts dans le fonctionnement de

l'enfant. Il s'agit d'une hypothèse issue de nos années de pratique en tant qu'orthophoniste clinicienne et de discussions avec des collègues dans le cadre de formations continues, qui demeure à vérifier. Il serait pour ce faire essentiel de discuter avec des orthophonistes de leurs pratiques et de leur opinion à ce propos. Une autre hypothèse nourrie par la théorie de Bronfenbrenner serait que les pratiques courantes d'évaluation du fonctionnement de l'enfant par les orthophonistes s'intéressent généralement à l'environnement immédiat de l'enfant (microsystème, p.ex. la maison ou le SGEE). Selon la disponibilité des ressources et le mandat perçu par les orthophonistes, leur évaluation du fonctionnement peut également s'intéresser aux relations qui existent entre les différents milieux de vie de l'enfant (mésosystème, p.ex. entre la maison et la classe préscolaire). Nous postulons que les contextes où l'enfant n'évolue pas directement, mais où les personnes qui interagissent avec lui évoluent sont beaucoup plus rarement explorés (exosystème, p.ex., l'environnement de la personne éducatrice quand elle n'est pas avec son groupe). À notre connaissance, les orthophonistes évaluent peu les impacts fonctionnels sous l'angle des valeurs sociales et culturelles influençant indirectement l'enfant (macrosystème). À l'heure actuelle, les travaux s'intéressant à la participation de l'enfant du point de vue de l'orthophoniste se centrent majoritairement sur le concept de participation à la communication (*communicative participation)*, ce qui permet l'établissement de liens plus proximaux avec les (in)capacités langagières de l'enfant, mais aborde beaucoup moins les aspects très transactionnels avec l'environnement et les aspects qui tiennent compte des interactions complexes avec les autres facteurs personnels de l'enfant, incluant les défis cooccurrents dans d'autres sphères de leur développement (p.ex., coordination motrice, régulation émotionnelle). À la lumière de cette analyse, une avenue à suivre pourrait être de décloisonner l'évaluation du fonctionnement pour en élargir la perspective. Ainsi, même si les résultats de la revue de la portée présentée au chapitre trois permettent de connaître l'existence de différentes mesures, il est suggéré qu'une véritable bonification des pratiques orthophoniques nécessite une vue d'ensemble qui passera par l'établissement d'un dialogue et une meilleure concertation avec d'autres parties prenantes : l'enfant lui-même et sa famille, le personnel éducateur et les autres personnes professionnelles impliquées. Cette affirmation est en cohérence avec une approche centrée sur la famille, dont la pertinence est largement reconnue dans le domaine de

l'intervention précoce (Dunst et Espe-Sherwindt, 2016; McCarthy et Guerin, 2022; Melvin et al., 2020).

Étude portant sur l'évaluation de la compétence sociale (chapitre quatre)

Pour rendre plus concrètes ces pistes de réflexion à l'égard de l'évaluation du fonctionnement de l'enfant, il a été décidé de s'intéresser plus spécifiquement à la compétence sociale en contextes éducatifs dans le cadre de l'étude rapportée au chapitre quatre de cette thèse. La compétence sociale a été considérée comme un concept d'intérêt pour l'orthophoniste qui veut, lors de son évaluation, ouvrir une porte sur la participation de l'enfant. En effet, la vulnérabilité des enfants d'âge préscolaire vivant avec un TDL en regard de la compétence sociale est démontrée par des effets de groupe, même si une grande variabilité est observée entre les individus (McCabe, 2005). La compétence sociale est également un concept dont l'intérêt dépasse les frontières de notre profession, ce qui peut promouvoir les pratiques collaboratives et l'établissement d'objectifs d'intervention transdisciplinaires, centrés sur la famille (Langner et Fukkink, 2022). Dans l'étude rapportée au chapitre quatre, nous avons vérifié l'applicabilité d'un modèle théorique (Ashton, 2018) qui décompose la compétence sociale en plusieurs strates, distinguant les capacités de l'enfant de sa performance en contexte, mais également d'un facteur plus distal, l'adaptation telle que perçue par l'ensemble des personnes impliquées dans l'interaction. Ce modèle nous est apparu novateur et utile pour opérationnaliser la distinction entre les comportements sociaux actualisés par l'enfant en contexte éducatif (plus proximaux des capacités selon un modèle écosystémique) et la satisfaction ressentie dans les interactions sociales par l'enfant lui-même, ses pairs et le personnel éducateur, ce qui est moins fréquemment évaluée par les orthophonistes (correspondant au cercle extérieur dans la Figure 1). Pour tester ce modèle, nous avons choisi d'utiliser les données issues d'un questionnaire déjà éprouvé sur le terrain, le PSA (LaFreniere et al., 1997), en nous centrant sur les perceptions du personnel éducateur et enseignant dans un contexte important de socialisation des jeunes enfants, le service de garde éducatif à l'enfance ou la classe d'enseignement préscolaire. Selon les résultats obtenus aux analyses factorielles confirmatoires, le modèle scindant l'échelle de compétence sociale en deux facteurs, c'est-à-dire l'adaptation et le fonctionnement, s'applique aux enfants d'âge préscolaire confrontés à différents défis développementaux, émotionnels ou comportementaux, qu'ils présentent ou non

des difficultés langagières. En contexte éducatif préscolaire, il apparaît donc pertinent de distinguer l'adaptation sociale d'un enfant des comportements qu'il actualise, et ce peu importe son diagnostic. Ceci milite en faveur d'une responsabilité partagée des différentes parties prenantes en regard de l'inclusion, et incite à cibler des objectifs d'intervention qui ne se centrent pas uniquement sur les capacités et les performances de l'enfant rencontrant des défis.

Par ailleurs, les scores obtenus à l'échelle de compétence sociale du PSA par les deux groupes d'enfants étudiés rappellent également l'importance pour une orthophoniste de s'intéresser à la compétence sociale, puisqu'il a été relevé que le groupe d'enfants avec TDL obtient des scores significativement plus faibles que l'autre groupe clinique à la quasi-totalité des indicateurs utilisés dans le modèle. En considérant que les enfants avec TDL consultant à cette clinique présentaient des difficultés langagières généralement importantes et persistantes, les résultats de l'étude décrite au chapitre quatre encouragent les orthophonistes à mettre l'accent sur les forces à développer en regard de la compétence sociale plutôt que d'axer uniquement sur les déficits langagiers à corriger. Effectivement, des compétences dites « non-cognitives », telles que la compétence sociale, seraient plus malléables à l'intervention que les compétences dites « cognitives », qui incluent les capacités langagières (Jones et al., 2015). Renforcer la compétence sociale de l'enfant vivant avec un TDL peut avoir un effet de cascade positive et influencer d'autres aspects de son développement à long-terme (Memmot-Elison et Toseeb, 2022). Les objectifs d'intervention concernant la socialisation et l'indépendance de l'enfant dans ses milieux de vie sont également prioritaires pour les parents (Singer et al., 2020) et risquent d'avoir plus de sens pour les enfants eux-mêmes, qui ne sont pas portés à se centrer sur leurs déficits mais plutôt sur les liens et le plaisir qu'ils ressentent dans les activités (Roulstone et al., 2012).

Suivant le modèle d'équation structurelle testé dans les deux groupes de notre échantillon, environ le deux-tiers de la variance de l'adaptation sociale peut être prédite par le fonctionnement social de l'enfant dans son contexte éducatif, lorsque les mesures proviennent du même questionnaire, le PSA. L'association forte trouvée entre les deux facteurs ne contredit pas le modèle hiérarchique d'Ashton (2018), qui recommande d'évaluer d'abord l'adaptation sociale et suppose que cela permettra d'identifier les enfants pour qui les comportements sociaux et les capacités sous-jacentes méritent d'être investigués. Le modèle testé dans notre étude est

demeuré valide en contrôlant l'influence de plusieurs facteurs personnels et environnementaux. Nous avons observé que tenir compte de ces facteurs amélioraient l'adéquation du modèle et contribuaient à expliquer l'adaptation des enfants avec et sans TDL, même s'ils ne semblaient pas tous influencer les deux groupes de la même façon. Ceci milite en faveur d'une démarche évaluative holistique, qui tient compte des interactions entre la personne et son environnement. Ces résultats sont cohérents avec des études en santé mentale chez l'enfant et l'adolescent soulignant combien l'adoption d'une perspective écologique est importante lorsque l'intervention vise à diminuer les atteintes fonctionnelles, puisque les facteurs environnementaux (p.ex., le contexte familial) pourraient expliquer jusqu'à 20% de la variance dans le fonctionnement de l'enfant (Goldstein et Naglieri, 2016).

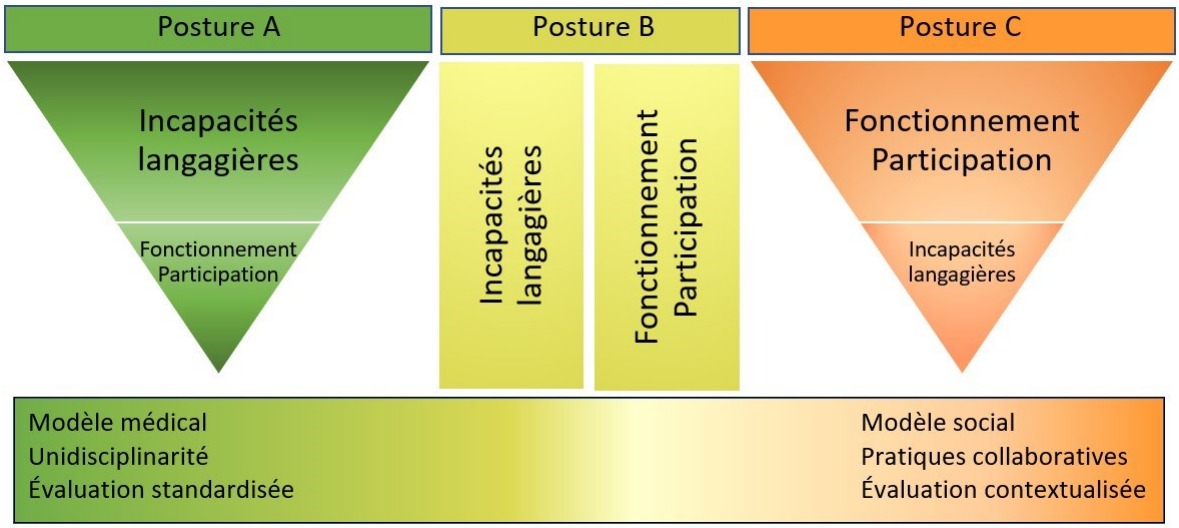
En somme, selon les données recueillies en clinique pédopsychiatrique, il serait possible de s'intéresser à la compétence sociale de l'enfant par le biais d'une démarche collaborative avec son milieu de garde, que l'enfant rencontre des difficultés langagières ou d'autres types d'enjeux, et cela en s'inspirant du modèle d'évaluation hiérarchique de la compétence sociale (Ashton, 2018; chapitre quatre).

Postures conceptuelles en regard de l'évaluation

Avant de proposer l'implémentation de nouvelles pratiques, il importe de questionner leur congruence avec le type d'évaluation souhaité par l'enfant et sa famille, mais également par les orthophonistes et les décideurs. Ainsi, les orthophonistes œuvrant auprès de cette clientèle seront plus à même de réfléchir à la pertinence de modifier ou non leurs pratiques évaluatives à la lumière des résultats discutés ci-dessus. En cohérence avec les critères menant à l'émission de diagnostics dans le DSM-5-TR (APA, 2022), les deux critères proposés par CATALISE pour identifier un TDL joignent la présence d'un symptôme centré sur les incapacités (critère un : atteintes langagières persistantes) et d'atteintes fonctionnelles affectant la participation de l'enfant (critère deux : impacts au quotidien). Dans le cadre de cette thèse, nous avons remarqué que la posture conceptuelle adoptée par les différents auteurs, par les chercheurs, par les décideurs déterminant les critères d'accès aux services et aux subventions, ainsi que par les personnes impliquées dans l'évaluation (incluant les enfants, les familles, les personnes éducatrices, enseignantes et professionnelles) pouvait différer et influencer l'importance relative accordée à

l'évaluation de ces deux critères. La Figure 2 illustre les trois principales postures que nous avons identifiées en regard de l'évaluation de l'enfant d'âge préscolaire. Il ne s'agit pour l'instant que d'une hypothèse à confirmer ou à infirmer. Cependant, il nous est apparu souhaitable de l'expliciter afin d'engager la discussion et la réflexion entre toutes ces personnes.

Discussion - Figure 2. Postures conceptuelles en regard de l'évaluation



La première posture (posture A) illustre l'évaluation des atteintes langagières (symptômes centrés sur les incapacités) de façon prédominante et prioritaire, et l'évaluation des impacts (fonctionnement dans la vie quotidienne) de façon complémentaire ou même facultative. Sur le plan théorique, cette posture se situe plus près de l'approche médicale et de la tradition évaluative en orthophonie. Lorsque cette posture est privilégiée, il appert probable que les enfants soient principalement référés pour une évaluation orthophonique en raison des symptômes observés, par exemple une difficulté à formuler des phrases complètes, que ces incapacités aient ou non un impact significatif sur son fonctionnement quotidien. Cette posture évaluative n'apparaît pas unique aux orthophonistes ni à l'évaluation du TDL. La tendance à évaluer davantage et plus précisément les symptômes que le fonctionnement a récemment été relevé chez des psychologues émettant un diagnostic de déficience intellectuelle (DI), alors même que l'établissement de ce diagnostic exige l'évaluation du comportement adaptatif pour en déterminer les seuils de sévérité (DSM-5-TR; APA, 2022). En effet, plus de la moitié des diagnostics de DI n'incluraient pas d'évaluation systématique du comportement adaptatif à l'aide d'outils

standardisés ou appropriés à cette population, alors que la quasi-totalité s'appuierait sur des instruments valides pour l'établissement du QI (von Rotz et Straccia, 2021). En orthophonie, où l'évaluation systématique du fonctionnement n'a été intégrée aux critères diagnostiques que récemment, il n'est pas surprenant que cette posture prédomine sur le terrain.

Les résultats de l'étude de la présente thèse portant sur la stabilité des atteintes langagières (chapitre deux) confirment que les orthophonistes au préscolaire possèdent l'expertise et les outils nécessaires pour émettre des conclusions cliniques statuant précisément sur la présence ou l'absence d'atteintes langagières. En ce sens, le personnel clinique peut se centrer sur des pratiques évaluatives éprouvées et bien maîtrisées lorsqu'une posture conceptuelle mettant l'accent sur les symptômes est privilégiée. Cet aspect lié à l'expertise clinique pourrait agir comme facteur de maintien de la posture A sur le terrain, malgré l'existence de propositions alternatives provenant des préférences des familles et des données de la recherche. Lorsque la posture A est privilégiée, l'accent mis sur les atteintes langagières durant le processus évaluatif se reflètera logiquement dans le choix des objectifs d'intervention. Les orthophonistes œuvrant auprès d'enfants d'âge préscolaire ont estimé dans un sondage que 56% des objectifs faisant partie de leur plan d'intervention ciblaient simultanément les activités et la participation de l'enfant, ce qui pourrait être révélateur d'une posture conceptuelle sous-tendant que la diminution des symptômes contribue à rehausser le fonctionnement (Kwok et al., 2022). Selon les orthophonistes (*n* = 93), 73% des objectifs ciblaient les activités et 72% ciblaient la participation. L'équipe de recherche ayant classifié les mêmes objectifs d'intervention selon le modèle de la CIF (OMS, 2001) sont parvenues à des conclusions différentes, considérant que 57% ciblaient les activités et seulement 21% ciblaient la participation de l'enfant (Kwok et al., 2022). Ainsi, même en utilisant un cadre conceptuel partagé (dans ce cas, la CIF), les orthophonistes semblent interpréter différemment des chercheuses et chercheurs la cible de leurs interventions auprès de l'enfant d'âge préscolaire.

Les publications scientifiques en orthophonie tendent actuellement à décrire davantage une posture conceptuelle différente de la posture A, que nous nommerons la posture B (Figure 2). La seconde posture (posture B) consiste à accorder une importance équivalente aux symptômes et au fonctionnement, en considérant ces deux aspects comme étant utiles et nécessaires à

l'émission d'une conclusion clinique. C'est davantage sous cet angle que la démarche évaluative est représentée dans le DSM-5-TR (APA, 2022) et le consensus CATALISE (Bishop et al., 2017). En Ontario, le *Profile of Preschool Communication* (PPC; Cunningham, 2019), publié dans le cadre d'un projet pilote proposant un démarche évaluative fondée sur les données issues de la recherche et de la clinique (Cunningham et al., 2022), paraît également se rapprocher de cette posture conceptuelle. Selon l'introduction du guide de référence, le PPC vise à documenter l'ensemble des composantes décrites dans le modèle de la CIF (OMS, 2001), pour « s'assurer que toutes les composantes affectant la santé de l'enfant sont considérées dans l'évaluation des effets, dans la planification de l'évaluation et de l'intervention et dans le développement des politiques et meilleures pratiques » (Cunningham, 2019, p.2, traduction libre). En plus de l'identification des atteintes langagières et des comorbidités, le PPC encourage l'orthophoniste à documenter le niveau communicatif de l'enfant et sa participation telle que mesurée par l'outil FOCUS (Thomas-Stonell et al., 2013). De plus, les facteurs de risque et de protection environnementaux et personnels y sont colligés (Cunningham, 2019). L'implémentation de cette seconde posture dans les milieux cliniques semble donc de plus en plus prônée et soutenue par les données de la recherche.

Dans le cadre de la seconde posture, l'évaluation des atteintes langagières et l'évaluation du fonctionnement quotidien seraient toutes deux des portes d'entrée valables à la démarche clinique pour remplir les critères nécessaires à l'émission d'une conclusion de TDL chez l'enfant d'âge préscolaire, du moment que ces deux aspects sont analysés et mis en lien. Des motifs de référence concernant autant le fonctionnement que les habiletés langagières pourraient être jugés recevables lorsque cette posture est privilégiée. Sachant qu'une méta-analyse a documenté la présence de difficultés langagières insoupçonnées chez 81% des enfants de 6 à 12 ans rencontrant des difficultés émotionnelles et comportementales identifiées (Hollo et al., 2014), adopter davantage cette posture évaluative en clinique pourrait encourager une identification précoce du TDL chez des enfants d'âge préscolaire dont les symptômes langagiers ne sont pas nécessairement flagrants mais pour qui le fonctionnement inquiète. À première vue, l'adoption de cette posture pourrait occasionner une augmentation du nombre d'enfants requérant une évaluation orthophonique, mais ceci n'est pas nécessairement avéré. En effet, il n'est pas dit que

les atteintes fonctionnelles doivent absolument être identifiées par une orthophoniste, et des pratiques collaboratives pourraient permettre de restreindre le fardeau évaluatif. En ce sens, les résultats de l'étude de la présente thèse portant sur les mesures d'évaluation de la participation, notamment en regard de la socialisation (chapitre trois), démontrent le caractère transdisciplinaire de l'évaluation du fonctionnement, mais également les défis concernant le partage des connaissances et des outils développés par des experts provenant de différents domaines. Pour optimiser les pratiques évaluatives en adoptant la posture B, il serait nécessaire que les parties prenantes se concertent davantage, afin d'éviter les dédoublements et d'agir en complémentarité. Selon la théorie du capital social, le travail interdisciplinaire peut optimiser la démarche évaluative et favoriser l'adaptation et l'inclusion de l'enfant d'âge préscolaire, mais des pratiques optimales de collaboration exigeraient de se centrer autour d'objectifs élaborés conjointement, à partir d'une perspective partagée de la situation (McKean et al., 2017).

À terme, repenser les critères justifiant une évaluation et une intervention orthophonique de cette manière pourrait contribuer à offrir des services plus équitables et rééquilibrer l'offre de services spécialisés aux enfants qui risquent le plus d'en voir leur parcours modifié. Dans une étude épidémiologique australienne ayant documenté les profils langagiers de 753 enfants de 4 ans, Skeat et al. (2014) ont démontré que certains enfants étaient bien desservis (11,7% avaient des besoins identifiés et avaient reçu de l'aide professionnelle dans les 12 mois suivants), alors que d'autres étaient sous-desservis (14,3% avaient des besoins identifiés mais n'avaient pas reçu d'aide) ou sur-desservis (5,2% de l'échantillon n'avaient pas de besoins identifiés mais avaient tout de même reçu de l'aide professionnelle). L'inquiétude parentale semblait être un déterminant majeur pour prédire l'obtention de services entre 4 et 5 ans (Skeat et al., 2014). En ce sens, il a déjà été documenté que les parents de jeunes enfants seraient beaucoup plus portés à parler de leurs inquiétudes en regard du développement langagier et à obtenir des services professionnels subséquents qu'à partager leurs inquiétudes reliées à des difficultés émotionnelles ou comportementales et à recevoir des services pour cette raison (Horwitz et al., 2003). Ainsi, il est permis de penser qu'une posture évaluative portant autant d'attention aux difficultés fonctionnelles en contexte de socialisation qu'aux difficultés langagières pourrait permettre d'identifier davantage d'enfants actuellement sous-desservis et éventuellement

repérer des enfants sur-desservis. Dans le domaine de la santé mentale, il a été démontré que la prévalence d'un trouble serait nettement moins élevée lorsque les symptômes doivent être accompagnés d'atteintes fonctionnelles (Rapee et al., 2012).

Finalement, la troisième posture conceptuelle identifiée en regard de l'évaluation (posture C) tend à prioriser le fonctionnement de la personne dans son environnement, au-delà des symptômes liés aux (in)capacités personnelles de l'enfant. Cette posture se rapproche davantage des valeurs et principes sous-tendant l'approche sociale. Elle prône une évaluation basée sur les besoins plutôt que sur les déficits, où l'inclusion doit être réfléchie en identifiant les changements à apporter dans l'ensemble du système, en acceptant l'enfant tel qu'il est. Le modèle hiérarchique d'évaluation de la compétence sociale proposé par Ashton (2018) et vérifié dans l'étude présentée au chapitre quatre de cette thèse peut être assimilé à cette dernière posture. En effet, l'évaluation des aspects déterminants pour l'adaptation de l'enfant y est prioritaire, et l'évaluation des performances et des capacités de l'enfant n'y est recommandée que si des insatisfactions vécues par l'enfant, ses pairs et son entourage au quotidien sont documentées. Pour justifier cette posture conceptuelle, Ashton (2018) insiste sur l'efficacité que peut représenter une telle démarche clinique, en ciblant les évaluations essentielles à compléter et en épargnant les autres tant aux spécialistes qu'aux familles. En général, une évaluation portant principalement sur le fonctionnement de l'enfant pourrait être moins longue et exhaustive et favoriserait un modèle centré sur les besoins des familles, se consacrant davantage à établir des cibles d'intervention significatives (Klein et Kraus de Camargo, 2018). Cette posture évaluative peut aussi être justifiée par les préoccupations parentales, car la recherche de services par les parents s'avère davantage motivée par les atteintes fonctionnelles que par les incapacités de leur enfant (Roulstone et al., 2012). Cette posture favoriserait une approche basée sur les besoins plutôt que sur les diagnostics, et pourrait répondre aux besoins partagés par l'ensemble des parties prenantes concernées par l'inclusion, incluant l'enfant, sa famille et le personnel éducateur.

La posture C ne peut se généraliser dans les services offerts aux enfants d'âge préscolaire qu'à la condition d'être portée et promue par les instances professionnelles, politiques et décisionnelles. En effet, elle nécessite la concertation de plusieurs entités et ne pourrait pas s'actualiser dans

une seule discipline. De plus, elle ne s'harmonise pas tout à fait avec la conception du dépistage et de l'intervention précoce prônée au Québec (p.ex., programme Agir-Tôt). En effet, si la nécessité d'agir en prévention fait l'unanimité, les façons d'y parvenir font l'objet de débats. Certains tenants de l'approche sociale décrient ce qu'ils nomment la « prévention précoce prédictive » actuelle, qui mettrait en relief l'écart individuel de l'enfant à la norme statistique pour lui offrir des services visant à le faire fonctionner dans le système en place (Parazelli et al., 2022). Le collectif citoyen Debout pour l'école! Propose une alternative nommée « prévention prévenante », qui s'attarderait à faire émerger des occasions nouvelles de socialisation dans un dialogue plus égalitaire avec les familles. Cette « prévention prévenante » s'attarderait davantage aux contextes propres à chaque enfant et questionnerait la part de responsabilité du système dans la vulnérabilité observée, plutôt que d'en faire porter le poids sur les individus (pour plus de détails, voir Parazelli et al., 2022). La pertinence de la posture C doit donc être réfléchie en considérant une analyse critique des pratiques de dépistage, et plus largement des questions de justice sociale en éducation à la petite enfance (Lehrer et al., 2023). De façon réaliste, la pertinence de cette posture pourrait d'abord être vérifiée dans un contexte particulier, où le modèle social est déjà bien implanté dans les pratiques et les politiques. Au Québec, les services de garde éducatifs à l'enfance sont déjà encadrés par un programme ministériel faisant appel aux modèles écosystémique et basé sur le développement global de l'enfant, favorable à l'inclusion (Gouvernement du Québec, 2019). Les résultats de l'étude de la présente thèse portant sur un modèle hiérarchique de la compétence sociale (chapitre quatre) pourraient favoriser l'implantation de pratiques évaluatives s'inscrivant dans la posture C, en misant d'abord sur une évaluation du facteur de l'adaptation sociale par le personnel éducateur. Ceci permettrait d'identifier des objectifs concernant l'ensemble des parties concernées dans l'interaction en tenant compte des facteurs environnementaux, avant de considérer les comportements de l'enfant et la nécessité d'évaluer les capacités personnelles sur lesquelles il ou elle peut s'appuyer. Dans un tel modèle, l'orthophoniste pourrait fournir son expertise pour alimenter la recherche commune de solution, déjà entamée par les principales parties prenantes dans la vie de l'enfant. L'adoption de la posture C suppose que l'évaluation des atteintes langagières de l'enfant est secondaire à l'identification d'atteintes fonctionnelles et qu'elle ne se substitue pas à la

responsabilité partagée par l'ensemble de la société de réduire les obstacles à l'inclusion de l'enfant dans son milieu de vie, en reconnaissant son droit d'y contribuer.

En somme, les résultats des trois études de cette thèse peuvent être réfléchis dans un cadre élargi, en tenant compte des postures conceptuelles adoptées ou remises en question par les individus et les milieux offrant des services aux jeunes enfants. Nous soumettons qu'il serait favorable de tendre vers un paradigme d'évaluation du jeune enfant qui prend en compte le développement intégré de l'enfant et la volonté des familles et de la société de favoriser la participation de l'enfant au quotidien, particulièrement en contexte de socialisation.

Forces et limites de la thèse

La plus grande force de cette thèse est possiblement d'élargir la perspective des orthophonistes en regard de l'évaluation du TDL chez l'enfant d'âge préscolaire en adoptant une vision transdisciplinaire et centrée sur la participation sociale de l'enfant. Elle répond d'abord à un besoin actuel des orthophonistes en petite enfance, qui se sont familiarisées depuis 2017 à la terminologie et aux critères du TDL, tout en cherchant à optimiser leur démarche clinique en ce sens. Au Québec comme ailleurs dans le monde, l'accès aux services orthophoniques est limité (Law, 2019), ce qui peut causer l'insatisfaction des parents (Mongrain et Michallet, 2015) et ne permet pas toujours un meilleur fonctionnement de l'enfant au quotidien. Pour remédier à cette situation, il est nécessaire de remettre en question nos façons de faire afin d'établir des pratiques innovantes. Ceci exige de s'appuyer sur des données fondées sur la recherche, de considérer la réalité des milieux, mais également de clarifier les cadres théoriques et les valeurs qui nous guident. Une force de cette thèse est donc d'avoir rassemblé ces différents éléments en tentant constamment de faire des liens entre la théorie et la pratique, par exemple en validant un modèle théorique d'évaluation de la compétence sociale auprès d'une population clinique authentique. En focalisant sur l'importance du fonctionnement et de la participation de l'enfant dès l'évaluation, cette thèse innove et supporte un paradigme centré sur les besoins des familles et l'établissement de cibles d'intervention (Klein et Kraus de Camargo, 2018).

Une autre force importante de cette thèse est d'avoir mis en lumière un large échantillon clinique d'enfants d'âge préscolaire à laquelle très peu d'études se sont intéressées jusqu'à maintenant.

Depuis quelques années, les recherches comportant de nombreux facteurs d'exclusion (p.ex., concernant le quotient intellectuel non-verbal de l'enfant, ou l'absence de difficultés cooccurrentes) ont été critiquées pour leur généralisation limitée aux enfants se présentant en clinique avec des difficultés langagières. Dans le cadre de cette thèse, les enfants présentant différentes caractéristiques personnelles et environnementales ont été inclus dans les études, incluant des enfants provenant de diverses origines ethniques et vivant dans des milieux bilingues ou polyglottes. De plus, la cooccurrence d'autres enjeux a été rigoureusement documentée par la codification des diagnostics psychiatriques, qui ont ensuite été introduits à titre de variables contrôles dans les analyses. La stabilité des atteintes langagières durant la période préscolaire a été vérifiée chez des enfants sans condition biomédicale identifiée, qui nécessitent des services orthophoniques en raison de difficultés langagières couplées à des difficultés de fonctionnement, ce qui correspond à la définition actuelle du TDL. Plus encore, l'étude présentée au chapitre quatre de cette thèse a également comparé la compétence sociale des enfants avec TDL à un autre groupe clinique composé d'enfants sans condition biomédicale, ayant consulté au même âge en raison de difficultés de fonctionnement, mais ne présentant pas de difficultés langagières. Ceci est une contribution importante, puisque la littérature existante a principalement comparé la compétence sociale des enfants avec TDL à celles d'enfants au développement typique (Andrés-Roqueta et al., 2016; Forrest et al., 2018).

Toutefois, la haute prévalence de troubles concomitants au TDL dans notre échantillon peut surprendre et être considérée comme une limite à la généralisation des résultats obtenus aux enfants d'âge préscolaire consultant en orthophonie dans d'autres contextes. En effet, la très grande stabilité de la conclusion orthophonique à l'âge préscolaire a été vérifiée dans un échantillon de jeunes enfants qui consultaient en raison de diverses difficultés développementales, relationnelles et comportementales et qui présentaient pour la plupart des difficultés de compréhension (83%) ainsi qu'un niveau de sévérité important d'atteintes langagières. La haute prévalence des cooccurrences chez les enfants vivant avec un TDL est documentée dans la littérature, mais comme les caractéristiques cliniques des enfants ne sont pas encore colligées systématiquement dans les études, il est difficile d'estimer jusqu'à quel point les cooccurrences relevées chez les enfants de notre échantillon sont présentes dans d'autres

populations consultantes en orthophonie au préscolaire. De ce fait, il faut faire preuve d'une grande prudence avant de présumer qu'un niveau de stabilité aussi élevé serait observé dans d'autres groupes d'enfants d'âge préscolaire consultant en raison de difficultés langagières. Néanmoins, cette étude permet de mieux connaître la réalité d'une population sans condition biomédicale identifiée, présentant des profils sociodémographiques variés et de nombreuses cooccurrences, telle qu'elle se présente généralement en clinique spécialisée. Il est important de noter que les évaluations ou les réévaluations des enfants faisant partie de l'étude sur la stabilité des atteintes ont été menées par 124 orthophonistes, dans une variété de milieux (hôpitaux, CLSC, cliniques privées, centres de réadaptation, écoles). Ceci tend à démontrer que des orthophonistes œuvrant dans divers contextes rencontrent ces enfants dans leur pratique, que ce soit avant, pendant ou après leur passage en clinique spécialisée. En ce sens, bien que les résultats ne puissent être généralisés à l'ensemble des enfants qui consultent en orthophonie, un grand nombre de clinicien.nes pourraient profiter d'en savoir davantage sur les enfants présentant ce profil.

Une autre limite non négligeable de cette thèse est liée au devis rétrospectif des études présentées aux chapitres deux et quatre. Ainsi, les seules variables qui ont pu être considérées sont les variables qui ont pu être colligées dans les dossiers cliniques. Notamment, il aurait été pertinent de documenter davantage les caractéristiques des milieux éducatifs fréquentés par les enfants, incluant des informations concernant la qualité structurelle et la qualité des processus de ces milieux. Également, l'emploi d'un devis prospectif aurait permis de prévoir plusieurs mesures et plusieurs informateurs afin de vérifier le modèle d'évaluation hiérarchique de la compétence sociale (Ashton, 2018), plutôt que de se limiter aux données du PSA uniquement. Ceci aurait également atténué d'autres enjeux méthodologiques rencontrées dans les analyses statistiques, comme une possible variance partagée en raison de la méthode, qui nous ont limité dans l'analyse des résultats du modèle d'équations structurelles. En raison de ces limites, plusieurs de nos résultats restent à répliquer ou à être testés dans un autre devis.

Retombées cliniques

Cette thèse fournit plusieurs pistes pouvant bonifier les pratiques d'évaluation auprès des enfants d'âge préscolaire vivant avec des difficultés langagières et des enjeux fonctionnels, notamment en contexte de socialisation. Tout d'abord, les résultats obtenus dans l'étude rapportée au chapitre deux confortent la validité du jugement de l'orthophoniste qui statue si, oui ou non, les difficultés langagières observées avant l'âge de quatre ans sont susceptibles de persister chez l'enfant dont la présentation globale motive une référence en clinique spécialisée. Ceci est important puisqu'aucune ligne directrice (p.ex., CATALISE ou le DSM-5-TR) n'a encore établi clairement la possibilité d'identifier la persistance des atteintes langagières avant l'âge de quatre ans, même dans une telle population clinique. Le critère d'âge à lui seul a pu occasionner des réticences de la part des orthophonistes à conclure à la présence d'un TDL, ainsi qu'à discuter clairement de la conclusion et du pronostic de l'évaluation avec les parents et les personnes-ressources impliquées auprès de l'enfant. Sur le plan des services offerts, le report de l'identification dans ces cas a pu restreindre l'accès à l'intervention disponible dans les ressources publiques, compliquer la reconnaissance des besoins de l'enfant par l'entourage et motiver des réévaluations pour des raisons purement administratives, diminuant du même coup les ressources orthophoniques disponibles pour l'intervention. Les retombées cliniques de cette étude apparaissent donc particulièrement importantes pour les familles d'enfants présentant des atteintes langagières étendues et sévères en bas âge, mais peuvent aussi éventuellement toucher l'organisation des services au préscolaire.

Ensuite, la revue de littérature interdisciplinaire effectuée peut également avoir des retombées sur plusieurs plans. L'évaluation des impacts fonctionnels peut être facilitée par une meilleure connaissance des mesures existantes qui sont dédiées aux enfants de cinq ans et moins. En prenant acte de la variété des concepts afférents et de leur opérationnalisation à travers les disciplines, les orthophonistes pourront également appréhender l'évaluation du fonctionnement de l'enfant dans un cadre écosystémique, en établissant quels éléments peuvent être mis en lien plus directement avec son profil langagier, dans une perspective diagnostique, et quels éléments nécessitent une perspective transdisciplinaire mais contribuent davantage à l'établissement de pratiques centrées sur l'enfant et sa famille. Ces décisions ne sont pas seulement importantes

pour évaluer la présence d'un TDL chez l'enfant d'âge préscolaire. Elles pourraient contribuer à établir différemment les objectifs d'intervention, et permettre d'identifier des façons efficientes d'en évaluer les effets.

Finalement, les résultats de l'étude portant sur l'évaluation hiérarchique de la compétence sociale selon le modèle d'Ashton (2018) suggèrent un moyen concret d'évaluer la compétence sociale des enfants d'âge préscolaire ayant des besoins liés au langage et à la communication dans leur milieu de socialisation, c'est-à-dire le service de garde éducatif à l'enfance ou la classe préscolaire. L'identification de deux facteurs distincts dans l'échelle de compétence sociale du PSA (LaFreniere et al., 1997) peut avoir des retombées cliniques importantes. En effet, la compétence sociale est souvent définie comme un concept fourre-tout, ce qui rend ardu la priorisation d'objectifs d'intervention visant à soutenir le développement des relations sociales au quotidien. Si le but ultime de l'intervention est d'optimiser la satisfaction des enfants, des pairs et des adultes dans les interactions de groupe, il semble plus efficace de cibler les besoins en mesurant d'abord le facteur de l'adaptation sociale, puisque les comportements sociaux actualisés par l'enfant lui-même dans l'interaction (facteur de fonctionnement social) n'expliqueraient pas plus du deux-tiers de l'adaptation mesurée au PSA. En proposant un modèle axé sur les forces de l'enfant plutôt que ses déficits, il pourrait également être plus facile pour les parents d'établir conjointement avec l'orthophoniste des objectifs d'intervention liés à la participation communicationnelle, puisqu'il aurait été observé que les parents parlent davantage des forces et des aspirations de leur enfant que de leurs difficultés ou de leurs problèmes (Singer et al., 2022).

Cette thèse pourrait également avoir comme retombée clinique de favoriser davantage de pratiques collaboratives entre les orthophonistes et les autres parties prenantes incluant l'enfant, sa famille, les personnes œuvrant dans d'autres disciplines et le personnel éducateur en petite enfance. Une façon d'y arriver serait de se concerter avec les autres personnes impliquées pour déterminer les moyens à privilégier pour mesurer le fonctionnement de l'enfant, échanges qui pourraient être suscités par les mesures recensées dans notre revue de littérature. Un autre moyen d'y arriver serait d'employer le modèle d'évaluation hiérarchique de la compétence sociale inspiré d'Ashton (2018) pour mettre à profit l'expertise des personnes directement

impliquées dans les interactions en contexte éducatif et reconnaître leur pouvoir d'intervenir pour favoriser l'adaptation sociale de l'enfant. En effet, selon une revue de 22 études s'intéressant aux enfants avec des besoins langagiers (Langner et Fukkink, 2022), l'amélioration de la communication fonctionnelle de l'enfant et la mise en place de pratiques inclusives seraient favorisées par la communication et la coopération entre les parties prenantes, combinées avec des objectifs d'intervention communs et partagés.

Finalement, cette thèse pourrait avoir des retombées au niveau des politiques et de l'organisation des services en petite enfance. Au Québec comme ailleurs, une ambivalence existe en ce qui concerne la place accordée à la participation et au fonctionnement social, proportionnellement à la place accordée aux déficiences, incapacités et diagnostics médicaux. Cette thèse pourrait contribuer à questionner la place accordée aux incapacités proportionnellement au fonctionnement dans l'évaluation orthophonique, mais également dans l'opérationnalisation des critères d'accès aux services et aux allocations en petite enfance. Le sujet de cette thèse apparaît d'actualité, alors que le gouvernement du Québec procède actuellement à la révision ou à la mise en place de plusieurs programme (p.ex., Agir-Tôt, allocation pour l'intégration d'un enfant handicapé en service de garde, critères d'attribution des codes de difficulté en milieu scolaire, etc.). Cette thèse s'inscrit également en complémentarité de plusieurs travaux s'intéressant aux besoins des enfants vivant avec des défis langagiers et réfléchissant aux meilleurs moyens d'y répondre (voir par exemple Tessier et Valade, 2017; INESSS, 2021; Ross-Lévesque, 2022).

Perspectives de recherche

De nombreux questionnements émergeant des travaux effectués dans le cadre de cette thèse mériteraient d'être approfondis dans de futures recherches. Tout d'abord, il importe de rappeler que l'impressionnante stabilité observée dans l'étude rapportée au chapitre deux concerne la classification, c'est-à-dire la constance de la présence (ou de l'absence) de difficultés langagières dans le temps, ce qui n'empêche pas que les enfants dont les atteintes langagières persistent peuvent expérimenter des difficultés qui varient au fil du temps. Ceci a été sommairement observé dans l'étude puisque, dans environ 20% des cas examinés, il y avait disparition ou apparition d'atteintes réceptive ou expressive à la deuxième évaluation. Des recherches futures

pourraient vérifier si la stabilité de classification observée dans notre échantillon se retrouve dans d'autres populations cliniques d'enfants d'âge préscolaire, tout en s'intéressant à la variation des difficultés dans différentes composantes langagières. En ce qui concerne les autres caractéristiques de l'enfant pouvant éclairer le pronostic, le genre et la situation de bilinguisme n'ont pas eu d'effets statistiquement significatifs sur la probabilité d'amélioration des capacités langagières réceptive ou expressive, mais sont des facteurs qui nécessiteraient également d'être étudiés plus avant, avec des échantillons incluant un plus grand nombre d'enfants et davantage de filles.

Les résultats obtenus dans le cadre de la revue de la portée pourraient également servir de base à des études futures. Notamment, les concepts identifiés dans les articles retenus pourraient contribuer à cibler une revue de littérature portant sur une question plus pointue, dans laquelle les qualités scientifiques des articles recensés pourraient être évaluée. Dans ce cadre, une recension des mesures plus récentes pourrait également être effectuée. Il serait également intéressant de cibler davantage les mesures conçues pour vérifier l'efficacité de l'intervention, en considérant que l'augmentation de la participation est ciblée comme étant le résultat désiré par l'enfant et sa famille. Éventuellement, la recherche pourrait être orientée pour aider à cibler un type de mesure d'évaluation des interventions pouvant être applicables dans un ensemble de services offerts aux enfants québécois d'âge préscolaire (p.ex., programme Agir-Tôt), comme cela semble être le cas en Ontario (Cunningham et al., 2022). La revue de la portée faisant partie de la présente thèse a également mis à jour un déséquilibre au profit des mesures quantitatives par questionnaire aux parents et, dans une moindre mesure, au personnel éducateur et enseignant. Ceci soulève le peu de place accordée à la perception de l'enfant et la pertinence de s'intéresser davantage aux recherches employant des méthodes qualitatives.

Puisque cette thèse souligne l'importance de développer davantage de pratiques collaboratives interdisciplinaires dans une approche inclusive centrée sur la famille, plusieurs pistes de recherche pourraient s'intéresser à documenter le développement et l'implantation de telles pratiques, dès l'évaluation. Le point de vue des personnes professionnelles en éducation autant que celui des personnes professionnelles issues du milieu de la santé pourrait être comparé avec celui des familles. En effet, il a déjà été relevé que l'importance accordée au processus

diagnostique peut être différente dans les milieux de la santé inspirés par le modèle médical et dans les contextes éducatifs où les modèles centrés sur les déficits peuvent être remis en question (Law, 2019).

Évidemment, des recherches futures sont nécessaires pour vérifier l'adéquation du modèle d'évaluation hiérarchique de la compétence sociale d'Ashton (2018) auprès d'autres populations d'enfants d'âge préscolaire, en employant des indicateurs provenant d'autres sources que le PSA et en développant des devis longitudinaux permettant de vérifier les effets modérateurs ou médiateurs d'autres facteurs personnels et environnementaux. Les résultats de cette thèse ont également amené à proposer qu'une évaluation centrée sur le fonctionnement soutient l'émission d'objectifs d'intervention orientés sous cet angle, ce qui demeure à vérifier. De plus, l'éventuelle implantation de nouvelles pratiques d'évaluation centrées sur le fonctionnement pourrait être soutenue par des recherches dans le domaine du transfert des connaissances et de l'implémentation en clinique, à l'image des projets menés par l'équipe de Moore et al. (2018) en centre de réadaptation, ou encore par l'équipe de Nicoll et al. (2021) en orthophonie. Singer et al. (2022) ont récemment souligné l'apport de la recherche interdisciplinaire où des designers ont travaillé avec des orthophonistes pour contribuer à la création de solutions à la fois originales et adaptées aux besoins cliniques identifiés. Notamment, le processus employé par Singer et al. (2022) a permis de se sortir des traditionnels outils papier-crayon et questionnaires pour créer et tester un dispositif en 3D permettant de répondre au besoin identifié, dans ce cas l'émission conjointe par les parents et l'orthophoniste d'objectifs centrés sur la participation communicationnelle de l'enfant. De futures recherches pourraient envisager ce type de devis pour établir les meilleures façons d'opérationnaliser l'évaluation du fonctionnement de l'enfant de façon interdisciplinaire, en synergie avec les familles et les personnes-clés dans l'entourage de l'enfant, par exemple le personnel éducateur en service de garde.

Finalement, davantage de recherches seraient nécessaires pour documenter les avantages et les inconvénients d'un paradigme évaluatif centré sur la participation de l'enfant dans ses contextes de vie, comparativement à un paradigme centré sur une approche plus médicale. Dans le domaine de la santé mentale, certains auteurs ont soutenu que la réduction des atteintes fonctionnelles devrait être un critère pour juger de l'efficacité de l'intervention, et que focaliser sur le

fonctionnement permettrait de fournir aux familles des informations qui leur seraient plus utiles pour choisir les interventions qu'ils souhaitent privilégier et dans lesquelles ils sont prêts à s'investir (Becker et al., 2011). Il serait intéressant de vérifier ces affirmations par la recherche dans le contexte des services offerts aux enfants vivant avec un TDL, d'autant que centrer la recherche sur le fonctionnement pourrait en soi avoir un impact sociétal et pousser les décideurs à valoriser les interventions qui permettent aux jeunes de mieux fonctionner au quotidien (Becker et al., 2011).

Chapitre 6 – Conclusion

Dans le cadre de ce projet doctoral, nous souhaitions documenter la faisabilité de s'intéresser davantage à la participation de l'enfant d'âge préscolaire qui vit avec des atteintes langagières. Nous avons abordé cette préoccupation sous l'angle des pratiques d'évaluation du TDL par l'orthophoniste, mais espérons qu'elle s'inscrira dans une réflexion plus large. En somme, les trois études constituant la présente thèse visent à soutenir la transformation des pratiques évaluatives auprès de l'enfant d'âge préscolaire en se déplaçant sur un continuum qui accorde une importance plus grande (posture A), égale (posture B) puis moindre (posture C) aux incapacités qu'au fonctionnement de l'enfant dans son contexte de vie. Sur ce continuum, la posture A se situe plus près de l'approche médicale et la posture C plus près de l'approche sociale. De même, si la posture A appert favorable à des pratiques unidisciplinaires, où les évaluations standardisées permettent l'appréciation des capacités de l'enfant dans un domaine spécifique, l'adoption de pratiques collaboratives et transdisciplinaires considérant les interactions entre la personne et son environnement s'avèrent nécessaires à la posture B, et primordiales à la posture C. Les résultats rapportés dans les études de cette thèse s'avèreront donc utiles dans la mesure où l'adoption de pratiques évaluatives de plus en plus cohérentes avec l'approche sociale est jugée souhaitable et pertinente. Nos travaux endossent cette perspective, mais une réflexion approfondie dépassant le cadre de cette thèse serait justifiée pour se positionner plus clairement face à ces enjeux théoriques. Nous suggérons que notre profession devrait s'y engager avec les autres parties prenantes, en ne perdant pas de vue que l'évaluation orthophonique n'est pas un but en soi, mais plutôt un moyen parmi d'autres de soutenir le développement et l'inclusion de l'enfant dans la société.

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Annexes

Annexe 1 – Matériel complémentaire à l'article « Stability of language difficulties among a clinical sample of preschoolers »

Supporting information

A1-Table A1. Improvement outcome according to age at first assessment: frequency and group comparison

	Total			
		<4 years old	≥4 years old	$\chi^2(1)$
Improvement	13	1	12	8.042**
No improvement	125	61	64	

Note. N = 138 participants with at least one impaired component (receptive or expressive) documented at first assessment.

*** = p* < .01

A1-Table A2. Improvement outcome according to severity of receptive deficits at first assessment: frequency and group comparison

	Total			Fisher's exact *p*-value
		Less impaired Receptive	More severely impaired Receptive	
Improvement	11	3	8	1.000
No improvement	117	33	84	

Note. N = 128 because severity of receptive deficits at first assessment was not available for 10 participants among the 138 with an initial receptive or expressive deficit.

A1-Table A3. Improvement outcome according to severity of expressive deficits at first assessment: frequency and group comparison

	Total			Fisher's exact *p*-value
		Less impaired Expressive	More severely impaired Expressive	
Improvement	10	4	6	.014
No improvement	115	10	105	

Note. N = 125 because severity of expressive deficits at first assessment was not available for 13 participants among the 138 with an initial receptive or expressive deficit.

A1-Table A4. Collinearity check between age and initial expressive severity categories

	<4 years old	≥4 years old	$\chi^2(1)$
Less impaired Expressive	4	10	2.582, *p* = .156
More severely impaired Expressive	57	54	

Notes. N = 125 because severity of expressive deficits was not available for 13 participants among the 138 who could improve. Both variables of interest were kept in the regression analysis.

A1-Table A5. Bivariate analyses between child and context characteristics and improvement outcome

	Improvement outcome
Child personal characteristics	
1-Gender	Fisher's exact test, p = .156
Child family characteristics	
2-Bilingualism	**$\chi^2(1) = 3.728$, $p = .053$**
3-Mother's education level	Fisher's exact test, p = .688
4-Rank in the family	Fisher's exact test, p = .127
5-Educational/relational problems	**$\chi^2(1) = 2.821$, $p = .093$**
Child clinical characteristics	
6-Developmental coordination disorder	Fisher's exact test, p = .455
7-Disruptive problems	$\chi^2(1) = 2.242$, p = .134
8-Anxious problems	Fisher's exact test, p = .315
Assessment context	
9-Delay between both assessments	**$r = .143$, $p = .094$**
10-Difference in work environment	$\chi^2(1) = 0.243$, p = .622
11-Difference in SLP's identity	Fisher's exact test, p = .699

Notes. N = 138. Variables with $p < .1$ are in bold because they were kept for regression analysis.

A1-Table A6. Logistic hierarchical regression predicting improvement of at least one language component

	1st block: χ^2=1.741 N.S. R^2 Nagel. =0.032 Hosmer-L. N.S.			2nd block: χ^2=6.916* R^2 Nagel. =.157 Hosmer-L. N.S.			3hd block: χ^2=6.732** R^2 Nagel. =.271 Hosmer-L. N.S.			4th block: χ^2=4.248* Total: χ^2=19.637** R^2 Nagel. =.340 Hosmer-L. N.S.		
CHARACTERISTICS	Wald	*p*	Exp (B)	Wald	*p*	Exp (B)	Wald	*p*	Exp (B)	Wald	*p*	Exp (B)
ASSESSMENT CONTEXT												
Delay in months	1.84	.176	1.00	1.94	.164	1.00	2.33	.127	1.00	1.76	.185	1.00
FAMILIAL												
Relational/educational problem												
Never diagnosed				2.48	.115	3.18	3.27	.071	4.31	2.95	.086	4.16
Past or current problem (REF)												
Bilingualism												
French only				3.49	.062	4.74	3.33	.068	4.95	2.90	.088	4.55
≥ one more language (REF)												
SEVERITY OF DEFICIT												
Initial expressive deficit												
≤Mild deficit							7.07	.008**	9.02	4.73	.030*	6.45
Moderate-severe deficit (REF)												
AGE GROUP												
Age category at first assessment												
≥ 4 years old										2.98	.085	6.72

Note. N = 125 (including 10 participants with an improvement outcome).

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

Annexe 2 – Matériel complémentaire à l'article « How to assess the everyday and social functioning of 2 to 5-year-olds? An overarching scoping review »

Supplemental Material: Assessment Measures With Three Citations or Less (*n* = 152)

A2-Table A1. Measures Having Three Mentions (*n* =17)

Assessment measure	Acronym	Reference
Activities Scale for Kids	ASK	Young et al. (2000)
Batelle Developmental Inventory	BDI	Newborg (2005)
Child and Adolescent Functional Assessment Scale	CAFAS	Hodges & Wong (1996)
Child Engagement in Daily Life	CEDL	Chiarello et al. (2013)
Coding of the total frequencies of positive, neutral, and negative interactions	CodeVAUGHN	Vaughn (2001; 2009)
Canadian Occupational Performance Measure	COPM	Law et al. (1991)
Child Social Preference Scale	CSPS	Coplan et al. (2004)
Developmental Profile	DP	Alpern (2007)
Early Development Instrument	EDI	Janus & Offord (2007)
Griffiths Mental Development Scales	GMDS	Griffiths (1984)
Home and Community Social Behavior Scales	HCSBS	Merrell & Calderella (2008)
Pediatric Outcomes Data Collection Instrument	PODCI	Daltroy et al. (1998)
Playground Observation of Peer Engagement	POPE	Kasari et al. (2005)
Play Observation Scale	POS	Rubin (2001)
Social Emotional Assessment/Evaluation Measure	SEAM	Squires et al. (2013)
Social Skills Evaluation Scale	SSES	Avcioglu (2003; 2007)
Vineland Social-Emotional Early Childhood Scales	VSEEC	Sparrow et al. (1998)

Note. Complete references available upon request.

A2-Table A2. Measures Having Two Mentions (*n* =24)

Assessment measure	Acronym	Reference
Adaptive Social Behavior Inventory	ASBI	Greenfield et al. (1997)
Adjustment Scales for Children and Adolescents	ASCA	Watkins & McDermott (2002)
Ages and Stages Questionnaire	ASQ	Squires et al. (1995; 1997; 2009)
Behavioral Inhibition Observations	BIO	Fox et al. (2001)
Behavior Rating Scale -Bayley	BRS	Bayley (1993)
Child and Adolescent Scale of Participation	CASP	Bedell (2004; 2011)
Child Behavior Rating Scale	CBRS	Bronson et al. (1990)
Child Health Questionnaire	CHQ	Landgraf et al. (1996; 1999)
Coding of child-peer communication 6-min within social activity	CodeTHI	Thiemann-Bourque et al. (2016)
Children Participation Questionnaire	CPQ	Rosenberg et al. (2010)
Social Adjustment Scales	EASE	Hughes et al. (1997)
Preschool Activity Card Sort	PACS	Berg & La Vesser (2006)
Preschool and Early Childhood Functional Scale	PECFAS	Hodges (2003)
Preschool Play Behavior Scale	PPBS	Coplan & Rubin (2001)
Preschool Social Behavior Scale	PSBS	Crick et al. (1997)
Pre-school Social Skills Assessment (Evaluation) Scale	PSSA(E)S	Omeroglu et al. (2014)
Questionnaire of Socially Skilled Response	QRSH	Bolsoni-Silva et al. (2009; 2011)
Social Impression Rating Scale	SIRS	Thiemann-Bourque et al. (2016); adapted from Odom et al. (1997)
Supports Intensity Scale-Children's Version	SIS-C	Thompson et al. (2016)
Sensory Processing Measure	SPM	Parham et al. (2007)
Walker-McConnell Scale of Social Competence and School Adjustment	SSCSA	Walker & McConnell (1988)
Social Skills Questionnaire for Preschoolers	SSQ-P	Takahashi et al. (2008)
Social Skills Scale	SSS	Anme et al. (2013)
Student-Teacher Relationship Scale	STRS	Pianta & Steinberg (1992) / Pianta (2001)

Note. Complete references available upon request.

A2-Table A3. Measures Having One Mention (*n* =111)

Assessment measure	Acronym	Reference
Autism Behaviour Coding System	ABCS	Dima et al. (2017)
Assessment, Evaluation and Programming System for Infants and Children	AEPS	Bricker (1993); Bricker & Pretti-Frontczak (1996); Bricker et al. (2002)
Abilities' Index	AI	Simeonsson & Bailey (1991)
About my Child	AMC-26	Rosenbaum et al. (2008)
Activities Questionnaire	AQ	Solish et al. (2010)
Brief Behavior Rating Scale	BBRS	Gresham et al. (2010)
Behavior and Emotion Expression Observation System	BEEOS	Izard et al. (2007)
Behavioral Inhibition Questionnaire	BIQ	Bishop et al. (2003)
Brief Observation of Social Communication Change	BOSCC	Grzadzinski et al. (2016)
Communication Function Classification System	CFCS	Hidecker et al. (2011)
Clinical Global Impressions	CGI	Guy (1976)
Coding of observed children's social-communication and play skills	CodeBOYD	Boyd et al. (2018)
Coding of Communication Acts	CodeCA	Casenhiser et al. (2014)
Coding of social behavior on video-taped at center time	CodeCASPER	Tsao et al. (2001)
Coding of Observed Peer Interactions -Intersubjectivity measure	CodeGAR	Garte (2015)
Coding of recorded conversational exchanges	CodeKOE	Koegel et al. (2014)
Coding and recording occurence of social initiation and interactions during 10 minutes of the lunch period	CodeREY	Reynolds et al. (2014)
Coding of filmed social behaviors	CodeRIV	Rivard et al. (2014)
Coding by intervals of interaction & visual regard in classroom	CodeVER	Verissimo et al. (2014)
Coding of Unfamiliar Peer Play Observations	CodeWOL	Wolfberg et al. (2015)
Child Outcomes Survey	COS	Stein et al. (2010)
California Preschool Social Competency Scale	CPSCS	Levin et al. (1969)
Children's Social Behavior Questionnaire	CSBQ	Warden et al. (2000)

Assessment measure	Acronym	Reference
Child Self-regulation and Behaviour Questionnaire	CSelfBQ	Howard & Melhuish (2016)
Cooperative task with a peer: «block game»	CTP	Huyder et al. (2017)
Caregiver-Teacher Report Form	C-TRF	Achenbach (1997)
Diagnostic Adaptive Behaviour Scale	DABS	Tassé et al. (2016)
Developmental Behaviour Checklist-Primary Carer Version	DBC-P	Einfeld & Tonge (1995)
DCDDaily-Q	DCDD-Q	Moraal-van der Linde et al. (2014)
Devereux Student Strengths Assessment	DESSA-Mini	Naglieri et al. (2011)
Early Coping Inventory	ECI	Zeitlin et al. (1988)
Early Childhood Longitudinal Study Birth Cohort data collection	ECLS-B	Najarian et al. (2010)
Early Screening for Autism and Communication Disorders	ESAC	Wetherby et al. (2009)
Elementary Social Behavior Assessment	ESBA	Pennefather & Smolkowski (2015)
Evaluation of Social Interaction	ESI	Fisher & Griswold (2008; 2014)
Early year Foundation Stage Profile	EYFS	Department for Children, Schools and Families (2007; 2012)
Functional Disability Inventory	FDI	Walker & Greene (1991)
Functional Emotional Assessment Scale	FEAS	Greenspan & DeGangi (2001)
Friendship Observation Scale-Young	FOS-Y	Bauminger et al. (2005; 2008)
Free play in a sandbox	FPS	Raine et al. (1998)
Functional Rehabilitation Evaluation of Sensori-Neurologic Outcomes	FRESNO	Roberts et al. (1999)
Goal attainment scaling	GAS	Kiresuk & Sherman (1968)
Gesell Infant Development Scale	GESELL	Ames et al. (1979)
GO4KIDDS Brief Adaptive Scale	GO4KIDDS	Perry et al. (2015)
Home and Community Activities Scale	HCAS	Dunst et al. (2000); adapted by Little et al. (2015)
Hunter Syndrome-Functional Outcomes for Clinical Understanding Scale	HS-FOCUS	Wiklund et al. (2013)

Assessment measure	Acronym	Reference
International Classification of Functioning, Disability, and Health Checklist 2.1	ICF-CY_2.1	WHO (2003)
International Classification of Functioning, Disability, and Health List: A&P matrix	ICF-CY_A&Pmatrix	Francescutti et al. (2009)
Brief ICF Core Set for preschool-age children with ADHD	ICF-CY_ADHD_0-5	Bolte et al. (2018)
Semi-structured interviews developed with reference to the ICF-CY	ICF-CY_interviewQ	Mei et al. (2015)
International Classification of Functioning, Disability, and Health Questionnaires	ICF-CY_Q_0-3_3-6	French WHO Collaborating Centre for the Family of International Classification (2015)
Questions on ICF participation domain	ICF-CY_SURV	Janssen et al. (2014)
International Classification of Functioning, Disability, and Health PEI Schedule	ICF-PEI Schedule	Raggi et al. (2014)
Loneliness and Social Dissatisfaction Questionnaire	LSDQ	Cassidy & Asher (1992); Abbreviated version for research by Zeedyk et al. (2016)
Matrix for the Assessment of Activities and Participation	MAAP	Castro & Pinto (2015)
Mindful Conversational Difficulties Scale	MCDS	Peterson et al. (2009)
Matson Evaluation of Social Skills in Youngsters	MESSY-II	Matson et al. (2010)
UNICEF Multiple Indicator Cluster Survey 4 and 5	MICS	UNICEF (2012; 2013)
Minnesota Preschool Affect Checklist	MPAC-R/S	Denham et al. (2012)
Music Therapy Communication and Social Interaction Scale	MTCSI	Guerrero et al. (2014)
Newsha Developmental Scale	NDS	Jafari & Asad-Malayeri (2012)
Ohio Youth Problem, Functioning, and Satisfaction Scales	OHIO	Ogles et al. (2000)
Participation and Activity Inventory for Children and Youth	PAI-CY	Elsman et al. (2017)
Preschool Behavior Questionnaire	PBQ	Behar (1977)
Pervasive Developmental Disorder Behavior Inventory	PDDBI	Cohen et al. (2003)

Assessment measure	Acronym	Reference
Peer Estimated Conflict Behavior Inventory	PECOBE	Bjorkqvist & Osterman (1998)
Social acceptance by peers using a sociometric procedure	PeerCOIE	Coie et al. (1982)
Peer nomination: prosocial behavior	PeerKAL	Kalvin et al. (2016)
Sociometric scale	PeerSS	Caprara & Pastorelli (1993); adapted by Bombi et al. (2011)
Paediatric Evaluation of Emotions, Relationships, and Socialisation questionnaire	PEERS-Q	Thompson et al. (2018)
Psycho-Educational Profile- Caregiver Report	PEP-3	Schopler et al. (2005)
Peer-Estimated Social Intelligence instrument	PESI	Kaukiainen et al. (1995)
Personality Inventory for Children-2	PIC-2	Lachar & Gruber (2002)
Peer Interaction Observation Scale	PIOS	Gazelle (2008)
Peer Interactive Play Rating Scales	PIPRS	Lin & Lin (2006)
Personal Maturity Scale	PMS	Alexander & Entwisle (1988)
Prosocial Behavior Questionnaire	PrBQ	Kirk et al. (1980)
Prosocial scale	PrS	Administration on Children, Youth and Families (ACYF; 2006)
Positive Social Competence Research Survey	PSCRS	Joy (2016)
Preference for Solitary Play Interview	PSPI	Coplan et al. (2014)
Questionnaire on Peer Interactions in the Kindergarten	QPI	D'Odorico et al. (2000)
Qualité de vie du nourrisson et du jeune enfant	QUALIN	Manificat et al. (2000); English in Darteyre et al. (2014)
Proximity-sensing radio-frequency identification devices	RFID	Cattuto et al. (2010); openbeacon.org
Video-referenced Rating of Reciprocal Social Behavior	vrRSB	Marrus et al. (2015)
Social, Academic, and Emotional Behavior Risk Screener	SAEBRS-TRS	Kilgus et al. (2014)
Social and Communication Disorders Checklist	SCDC	Skuse et al. (2005)
Social Cognitive Evaluation Battery	SCEB	Adrien (2007)
Social Competence Inventory	SCI	Rydell et al. (1997)
Social Competence Screening	SCS	Stefan et al. (2009)

Assessment measure	Acronym	Reference
Social-Emotional Assessment Inventory	SEAI	Meadow-Orlans (1983)
Greenspan's Social-Emotional Growth Chart	SEGC	Greenspan (2004)
Social Emotional Learning Assessment	SELA	Elliott et al. (2018)
School Function Assessment	SFA	Coster et al. (1998)
Infants-Junior Middle School Students' Social-Life Abilities Scales	SLAS	No reference in Liu et al. (2018)
School Outcomes Measure	SOM	Arnold (2003)
Short Play and Communication Evaluation	SPACE	Shire et al. (2018)
Sydney Psychosocial Reintegration Scale for Children	SPRS-C	Soo et al. (2016)
Student Rating Scale	SRScale	Schmitt et al. (2014)
Social reticence testing protocol	SRTP	Degnan et al. (2014)
Social Skills Assessment Scale	SSAS	Atas et al. (2016)
School Social Behavior Scales	SSBS-2	Merrell & Caldarella (2008)
Social Communication Checklist	SSC/SSC-R	Ingersoll et al. (2010)/ Wainer et al. (2017)
Ghuman-Folstein Screen for Social Interaction	SSI	Ghuman et al. (2011)
Social Skills Q-Sort	SSQsort	Locke et al. (2008, 2014)
Skills for Social Success	SSSuccess	Kosberg et al. (1999)
Temperament Assessment Battery for Children-Revised	TABC-R	Martin & Bridger (1998)
Toddler Behaviour Assessment Questionnaire	TBAQ	Goldsmith (1996)
Teacher Observation of Classroom Adaptation-Revised	TOCA-R	Werthamer-Larsson et al. (1991)
Teacher's Report Form	TRF	Achenbach & Rescorla (2001)
Teacher's social questionnaire	TSQ	Wright & Mahfoud (2014)
World Health Organization Disability Assessment Schedule Child Version	WHODAS	World Health Organization (2010)

Note. Complete references available upon request.

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Report Included in Review, but not Charted Because it Was a Duplicate (*n* = 1)

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Annexe 3 – Matériel complémentaire à l'article « Hierarchical Model of Assessment of Social Competence: Empirical Verification Among Clinical Preschoolers »

A3-Table A1. Internal reliability of the eight positive poles of SCBE

Pole	Cronbach's α		
	Total N = 317	DLD *N = 217*	*No-DLD* *N = 99*
Calm	.65	.60	.72
Tolerant	.77	.74	.82
Prosocial	.77	.75	.78
Cooperative	.65	.63	.70
Joyful	.76	.77	.76
Secure	.74	.74	.71
Autonomous	.58	.51	.56
Integrated	.75	.70	.79

Data-driven EFA results in 85 other children

The EFA was performed with data from participants excluded due to incomplete clinical profiles (n= 85; see Figure 3), Although this sample was not completely random, it was deemed reasonably equivalent to our sample.

In SPSS, the Unweighted Least Square extraction method was used with an oblique rotation (OBLIMIN) and gave a good factorial solution (Kaiser-Meyer Olkin was .860, well above the recommended threshold of .6, and Bartlett's Test of Sphericity was statistically significant, $p < .001$). Two factors were extracted (see Table S2), explaining 76.11% of the variance (or 68.41% of the shared variance). The four positive poles loading on the first dimension suggested it represents the «Social functioning» necessary to SC, namely the capacity to remain self-regulated (Tolerant, Calm) and to interact positively with pairs and adults (Prosocial, Cooperative). The second dimension could represent «Social adjustment» in social interaction, defined by self-efficacy (Secure, Autonomous), emotional well-being (Joyful), and group status (Integrated) components. The correlation between the two factors was .497. The EFA results obtained in the

sample constituted of 85 children who had incomplete clinical information were congruent with the theory-driven CFA model that we wished to test.

A3-Table A2. Exploratory factorial analysis of Social Competence items of SCBE

Pole	*Factor 1*	*Factor 2*	*Dimension*
Calm	**.936**	-.107	
Tolerant	**.812**	-.062	Social functioning
Prosocial	**.734**	.292	
Cooperative	**.656**	.197	
Joyful	-.054	**.796**	
Secure	-.103	**.915**	Social adjustment
Autonomous	.177	**.653**	
Integrated	.308	**.651**	
% of variance explained	58.51%	17.60%	

Notes. Extraction Method: Unweighted least squares. Rotation Method: Oblimin with Kaiser Normalization. Rotation converged in 8 iterations.

Annexe 4 – Approbation éthique

Centre intégré universitaire de santé et de services sociaux du Nord-de-l'Île-de-Montréal

Québec

Formulaire de demande de renouvellement annuel de l'approbation d'un projet de recherche

Titre du protocole : **De l'évaluation des capacités langagières à la participation sociale d'enfants d'âge préscolaire : étude d'une population clinique et des écrits scientifiques**

Numéro(s) de projet : **2022-2240**

Identifiant Nagano : **Langage et CS**

Chercheur principal (au CER Éval) : **Marie-Julie Béliveau**

Date d'approbation du projet par le CER : **2021-06-30**

Formulaire : **F9H-25118**

Date de dépôt initial du formulaire : **2022-05-26**

Date de dépôt final du formulaire : **2022-05-26**

Statut du formulaire : **Formulaire approuvé**

Section réservée CÉR : DÉCISION DU CÉR

1. **DÉCISION du CÉR CIUSSS NIM**

- ☐ Demande examinée en comité plénier
- ☑ Demande examinée en comité restreint. La décision sera rapportée au comité plénier lors de la prochaine réunion
- ☐ Demande classée au dossier
- ☐ Discussion avec le chercheur principal
- ☐ Lettre envoyée au chercheur pour lui faire connaître les préoccupations du comité
- ☐ Commentaires :

*** COVID-19* La demande est approuvée mais veuillez-vous assurer de respecter les directives émises concernant la COVID-19, disponibles sur le site web de la Direction de la recherche.**

2. **Le renouvellement annuel du projet est approuvé pour ces dates.**

Renouvellement accepté du 30 juin 2022 au 30 juin 2023

Projet multicentrique au Québec

- ☐ Ce renouvellement est valable dans tous les établissements du RSSS pour lesquels une lettre d'autorisation de la personne formellement mandatée a été émise dans le cadre de ce projet.

3. **La demande a été approuvée par :**

Élodie Petit, présidente du CER CIUSSS NIM

Signature du président ou délégué

Christian Lefebvre

Coordonnateur du CER
pour
la présidente ou vice-présidente du Comité d'éthique de la recherche
CIUSSS du Nord-de-l'Île-de-Montréal

2022-06-17 15:37

Les activités du CÉR sont en accord

Le Comité d'éthique de la recherche du CIUSSS du Nord-de-l'Île-de-Montréal poursuit ses activités en accord avec les normes et les règlements québécois et canadiens applicables. • Le CÉR du CIUSSS NIM est désigné par le gouvernement du Québec (MSSS) pour les fins d'application de l'article 21 du Code civil du Québec; • Le comité d'éthique de la recherche exerce ses activités d'une manière conforme aux Bonnes pratiques cliniques (ICH) et aux directives publiées dans la version en vigueur de l'EPTC2 : Énoncé de politique des trois conseils : Éthique de la recherche avec des êtres humains (2018), conformément au Code Civil du Québec, conformément au Plan d'action ministériel en éthique de la recherche et en intégrité scientifique (MSSS 1998)

Note. La version complète et originale des formulaires du Comité d'éthique à la recherche est disponible sur demande.