



**Adaptations of the MacArthur-Bates CDI
Into Non-U.S. English Languages**

**Philip S. Dale
Melissa Penfold
July 5, 2011**

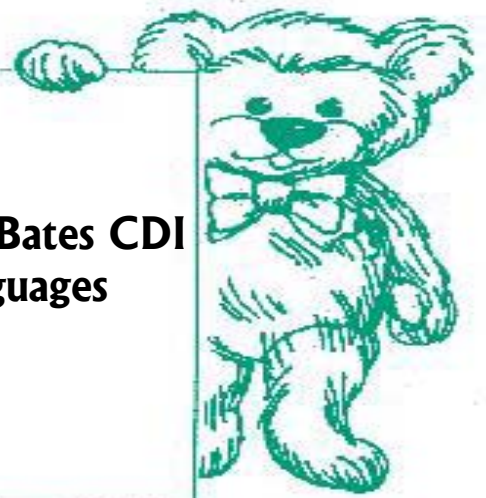


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Introduction

The MacArthur-Bates Communicative Development Inventory (CDI) Advisory Board (listed below) is gratified by the research and clinical usefulness of the CDI instruments, and the interest of language researchers and clinicians around the world in developing adaptations for their language. In some languages, such as English, the CDI has added a tool with distinctive advantages for certain purposes; in a number of other languages, it has been the first standardized and normed measure of language development, providing a foundation for future work.

In February, 2010, the CDI Advisory Board initiated a project to survey all known, authorized CDI adaptations, to determine their status and make the information available broadly. This report provides a summary of that survey, as of July, 2011. It will also be made available on the CDI website, <http://www.sci.sdsu.edu/cdi>. The report also includes information for individuals and teams interested in initiating a new CDI adaptation (see pp. 129-133). Corrections and additions to this report should be sent to Philip Dale, at dalep@unm.edu.

We strongly recommend that anyone considering the development of an adaptation of the CDI acquire the CDI manual:

Fenson, L., Marchman, V. A., Thal, D. J., Dale, P. S., Reznick, J. S., & Bates, E. (2007). *MacArthur-Bates Communicative Development Inventories: User's Guide and Technical Manual, Second Edition*. Baltimore: Brookes Publishing (<http://www.brookespublishing.com>) for information about the development of the CDI.

CDI Advisory Board

Larry Fenson, San Diego State University, Chair
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Philip S. Dale, University of New Mexico
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Virginia Marchman, Stanford University
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Donna J. Thal, San Diego State University and University of California, San Diego

Albanian

Person Preparing Report: Dr. Enkeleida Kapia and Dr. Enila Cenko

Date: December 22, 2010

Forms Developed	Status	Available for Distribution	Norms?	Validity Evidence	Manual?
CDI:WG CDI:WS	Preliminary Preliminary	No, not yet, with the exception of the research group	Not, not yet	No, we do not. We are in the process of conducting this research. We will have a manuscript ready sometime this coming year	No, there is not for the time being

PLANS FOR FUTURE WORK

Both short form versions and CDI-III.

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American Sign Language

Person Preparing Report: Diane Anderson

Date: October 20, 2010

Forms Developed	Status	Available for Distribution	Norms?	Validity Evidence	Manual?
CDI:WS	Version is final, norms are preliminary	Yes online	Yes, preliminary norms; when family takes the test online, we score it up and return it to them	Yes, Anderson, D. & Reilly, J. (2002). The The MacArthur Communicative Development Inventory: Normative Data for American Sign Language, <u>Journal of Deaf Studies and Deaf Education</u> , 7, 83-106.	No manual available

PLANS FOR FUTURE WORK

We are currently developing the grammar section of the CDI for ASL. This is a visual test presenting parents with two signed sentences, one grammatical, one ungrammatical. Parents are asked to pick the sentence that most closely resembles their child's signing. We are currently piloting this test online.

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Arabic

Person Preparing Report: Fatima Basaffar

Date: November 11, 2010

Forms Developed	Status	Available for Distribution	Norms?	Validity Evidence	Manual?
CDI:WS CDI:WG	Versions are preliminary	Yes, under request	Not yet	In process	In process

PLANS FOR FUTURE WORK

We are planning to come up with different forms for the different dialects of Arabic.

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Austronesian Languages in New Zealand: Maori, Samoan, and Tongan

Person Preparing Report: Elaine Reese

Date: December 9, 2010

We requested permission to adapt the NZ CDI: Words and Sentences into Maori, Samoan, Tongan, and Hindi for use at age 2 in the Growing Up in New Zealand study. We have now completed a preliminary version of the Maori, Samoan, and Tongan checklists to use with our pilot group of N = 200. All versions that we have created are based on the CDI II: Short Form A. The Maori version is more or less a direct translation, but to create the Samoan and Tongan versions, we worked from free-play language samples that we have collected with 21 and 26-month old children from another study. We were unable in the end to create a Hindi version that was satisfactory.

CONTACT INFO AND PUBLICATIONS

Dr. Peter Keegan, University of Auckland (Maori)

Dr. Elaine Ballard, University of Auckland (Samoan, Tongan, and a NZ Chinese version of Twila Tardif's adaptation)

Dr. Mele Taumoepeau, University of Otago (Samoan and Tongan)

I also adapted my NZ CDI:II long form into a short form with the help of Dr. Stephanie Stokes and Dr. Tom Klee at the University of Canterbury.

After we get the pilot data in 2011, we will review the psychometrics of the checklists and revise accordingly if necessary. (For the Maori, Samoan, and Tongan versions, we have asked parents an open-ended question about additional words that their children are using that might be incorporated into the final checklist.)

Basque

Person Preparing Report: Maria José Ezeizabarrena & Iñaki Garcia

Date: October 6, 2010

FORMS DEVELOPED

Forms Developed	Status	Available for Distribution	Norms?	Validity Evidence	Manual?
CDI:WG CDI:WS	Definitive versions and short versions	Yes, it was published in basque (Barreña ET AL. 2008) The publications of the short versions are in progress (submitted)	Yes. The norms, percentiles, punctuations and instructions for interpretation were included in Barreña ET AL. 2008. The publication of the norm for the short version is in progress (submitted) but seems to be more difficult.	Convergent validity and correlations were analyzed. Correlation between KGNZ-1 & Batelle test revealed the following results: (Comprehension $r = 0,87$; $p < 0,001$) & Production ($r = 0,917$; $p < 0,001$). Prediction validity was calculated comparing results of KGNZ-1 and KGNZ-2 date obtained from the same children in a 6 month interval. These are the correlation values obtained: ($r = 0,61$; $p < 0,001$) for vocabulary comprehension (KGNZ-1) and vocabulary production (KGNZ-2); ($r = 0,45$; $p < 0,01$) for vocabulary production in KGNZ-1 & vocabulary production KGNZ-2. ($r = 0,30$; $p < 0,01$) vocabulary comprehension in KGNZ-1 AND morphosyntactic complexity in KGNZ-2. ($r = 0,43$; $p < 0,001$) vocabulary production in KGNZ-1 and morphosyntactic complexity in KGNZ-2. Convergent validity of short versions was also calculated. Correlation between KGNZ-1 long and KGNZ-1 short were attested in vocabulary comprehension ($r = 0,76$; $p < 0,001$) and vocabulary production ($r = 0,77$; $p < 0,001$).	Barreña, A., Garcia, I., Ezeizabarrena, M. J., Almgren, M., Arratibel, N., Olano, I., Barnes, J., Petuya, A. & Colina, A. (2008). <i>MacArthur-Bates. Komunikazio Garapena Neurtzeko Zerrenda. Euskarara egokitua. Erabiltzaileentzako gida eta eskuliburu teknikoa</i> . Bilbao: Udako Euskal Unibertsitatea. ISBN: 978-84-8438-177-8. It can be bought in: http://www.ueu.org/denda/ikusi/MacArthur-Bates%2BKomunikazio%2BGarapena%2BNeurtzeko%2BZerrenda The short version has not been published yet.

PLANS FOR FUTURE WORK

We are involved in the adapted version, in the development of the KGNZ-3. Once could be the definitive one. Data collection for norming punctuations and validity studies in progress.

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Barreña, A., Ezeizabarrena, M. J. & Garcia, I. (2007). Influence of the linguistic environment on the development of the lexicon and grammar of Basque bilingual children. In C. Perz-Vidal, M. Juan-Garau y A. Bel (Eds.) *A Portrait of the Young in the New Multilingual Spain*. Clevedon: Multilingual Matters. ISBN: 13 978-1-84769-023-4

Almgren, M.; Ezeizabarrena; M.J. & Garcia, I. (2007). The Basque CDI: Applications in a bilingual society. In M. Eriksson (Ed.) *Proceedings from the First European Network Meeting on the Communicative Development Inventories* (pp. 83-92). Gävle: Gävle University Press. ISBN: 978-91-974948-8-5

Bengali

Person Preparing Report: Dr. Jena D. Hamadani

Date: October 5, 2010

Forms Developed	Status	Available for Distribution	Norms?	Validity Evidence	Manual?
CDI:WG	Final	We have shared it with those who are interested. We can also post it in web page if needed.	No norms	Hamadani JD, Baker-Henningham H, Tofail F, Mehrin F, Huda SN, Grantham-McGregor SM. The validity and reliability of mothers' report of language development in one year old children in a large scale survey in Bangladesh. Food Nutr Bull 2010 Jun;31(2 Suppl):S198-206.	It is available with us in Bengali language.

PLANS FOR FUTURE WORK

The current instrument is appropriate for children between 9-22 months of age. We have also developed a revised version extended for children up to 36 months of age, but it is not completed yet.

CONTACT INFO AND PUBLICATIONS

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Brazilian Sign Language

Person Preparing Report: Elizabeth Reis Teixeira

Date: May 12, 2011

Project in progress.

Contacts have been made with institutions in other Brazilian states in order to make possible the contact with deaf children in inclusive or specialized schools, only a couple of which have responded. As most schools are located in the south region of the country, research work trips have already been scheduled for this year's second semester (particularly, in São Paulo, Rio Grande do Sul and Minas Gerais).

For the time being, we are reviewing the literature and the materials available on CDI's adaptation to ASL and British Sign Language, attempting a comparison with the BP adaptation (for cultural reasons), and starting to construct a tentative form to start the validation study in the second semester. We still don't know whether we will be able to use both the Words and Gestures and the Words and Sentences forms, as we are having much difficulty in finding subjects to test. The problem with the deaf population is that around 96% of deaf subjects are born in hearing families and most of them only have access to a signed language much later in life – generally when they enter school (around six or seven year of age).

ELIZABETH REIS TEIXEIRA's Curriculum in the LATTES (Brazilian Government Research Agency) database: <http://lattes.cnpq.br/6177760381095851>

Nanci Araujo Bento's Curriculum in the LATTES database:
<http://lattes.cnpq.br/2210608216017820>

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British Sign Language

Person Preparing Report: Dr. Bencie Woll

Date: February 9, 2011

Forms Developed	Status	Available for Distribution	Norms?	Validity Evidence	Manual
CDI:WG	Final	At present, available on request. We plan to make it more widely available, together with a user's manual, by the end of the year.	Norms for native signing deaf children have been published (see Woolfe T, Herman R, Roy P & Woll B (2010) Early Lexical Development in Native Signers: A BSL Adaptation of the MacArthur-Bates CDI. <i>Journal of Child Psychology and Psychiatry</i> 51(3) 322-331.	We are currently analysing data from hearing native signers (hearing children with deaf parents) and deaf children with hearing parents	(not yet available but planned for later this year)

PLANS FOR FUTURE WORK

Our current work is focused on developing norms for other groups of children using BSL

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Woolfe T, Herman R, Roy P & Woll B (2010) Early Lexical Development in Native Signers: A BSL Adaptation of the MacArthur-Bates CDI. *Journal of Child Psychology and Psychiatry* 51(3) 322-331.

Catalan

Person Preparing Report: Dr. Elisabet Serrat Sellabona

Date: November 15, 2010

Forms Developed	Status	Available for Distribution	Norms?	Validity Evidence	Manual?
CDI:WG CDI:WS	Final Versions	It is available to others under request	There are not norms for the instrument yet. We are developing them	We do not have empirical evidence on the validity of the measure. At present, we are collecting data about it	There is not a manual for the instrument. We intend to write the manual after finishing developing the norms for the instrument and the validity of the measure

PLANS FOR FUTURE WORK

We do not have plans for further CDI work.

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At present we have one publication with data obtained from Catalan CDI-II adaptation.

Serrat, E., Sanz-Torrent, M., Badia, I., Aguilar, E., Olmo, R., Lara, M. F., Andreu, L. y Serra, M. (2010). La relación entre el aprendizaje léxico y el desarrollo gramatical. *Infancia y Aprendizaje*, 33(4), 435-448.

Chichewa/Nyanja and Chiyao (Yao)

Person Preparing Report: Elizabeth Prado, PhD

Date: May 5, 2011

Forms Developed	Status	Available for Distribution	Norms?	Validity Evidence	Manual?
CDI:WG	We have developed a tool designed to assess language development in children age 18 months in Malawi. We developed the tool to evaluate the effect of nutritional supplementation on children's language development. The interview consists of 100 vocabulary items, 6 gesture items, and 5 grammatical items. Final Version.	Not yet	No, we do not have norms. Since we are only testing children at age 18 months, we do not expect to develop norms.	We plan to validate the tool against transcripts of child speech recordings. This should be completed in the next 6 months	Yes, there is a manual that is also still under development

PLANS FOR FUTURE WORK

Currently no plans

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Chinese: Cantonese (Hong Kong), Mandarin (Beijing)

Person Preparing Report: Twila Tardif

Date: February 28, 2011

Forms Developed	Status	Available for Distribution	Norms?	Validity Evidence	Manual?
CDI:WG CDI:WS	Final	The forms and complete manual are available for \$100 and can be ordered from our website, unlimited copies can be printed from each of the forms (SF, LF, Infant, Toddler in 2 languages: Cantonese and Mandarin: http://www.umich.edu/~chgd/programs/cad/CCDI_GuideManual.html	YES, same manual	Much of this is available in the Manual and we have ongoing papers in press, as well as three publications that have already come out: Tardif, T., Fletcher, P., Liang, W.L., & Kaciroti, N. (2009). Early vocabulary development in Mandarin (Putonghua) and Cantonese. <i>Journal of Child Language</i> , 36, 1115-1144. PMID: 19435545. Tardif, T., Fletcher, P., Liang, W.L., Zhang, Z.X., Marchman, V., & Kaciroti, N. (2008). Babies' First 10 Words. <i>Developmental Psychology</i> , 44(4), 929-938. <u>Ma, W.</u> , Golinkoff, R.M., Hirsh-Pasek, K., McDonough, C., & Tardif, T. (2009). Imageability predicts verb learning in Chinese children. <i>Journal of Child Language</i> , 36(2), 235-267. DOI: 10.1017/S0305000908008933.	The complete manual is available for \$100 and can be ordered from our website, unlimited copies can be printed from each of the forms (SF, LF, Infant, Toddler in 2 languages: Cantonese and Mandarin: http://www.umich.edu/~chgd/programs/cad/CCDI_GuideManual.html Tardif, T., Fletcher, P., Zhang, Z.X., Liang, W.L., & Zuo, Q.H. (2008). <i>The Chinese Communicative Development Inventory (Putonghua and Cantonese versions): Manual, Forms, and Norms</i> . Peking University Medical Press.

PLANS FOR FUTURE WORK

Shortform versions (W&G plus W&S) have been developed for both Cantonese and Mandarin and are published in the Manual cited above.

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http://www.umich.edu/~chgd/programs/cad/CCDI_GuideManual.html

Tardif, T., Fletcher, P., Liang, W.L., & Kaciroti, N. (2009). Early vocabulary development in Mandarin (Putonghua) and Cantonese. *Journal of Child Language*, 36, 1115-1144. PMID: 19435545.

Tardif, T., Fletcher, P., Liang, W.L., Zhang, Z.X., Marchman, V. , & Kaciroti, N. (2008). Babies' First 10 Words. *Developmental Psychology*, 44(4), 929-938.

Ma, W., Golinkoff, R.M., Hirsh-Pasek, K., McDonough, C., & Tardif, T. (2009). Imageability predicts verb learning in Chinese children. *Journal of Child Language*, 36(2), 235-267. DOI: 10.1017/S0305000908008933.

Chinese: Mandarin (Taiwan)

Person Preparing Report: Huei-Mei Liu

Date: October 6, 2010

Forms Developed	Status	Available for Distribution	Norms?	Validity Evidence	Manual?
CDI: WG CDI: WS	I consider the present forms as final versions	Published by The Profile of Psychological Publishing Co., Ltd. In Taiwan	The month-to-month norm data were collected from a stratified random sample of 2,654 8-36 month-old children in Taiwan.	The information of the validity of the measures were described in a published journal article in <i>Formosa Journal of Mental Health</i> . <u>Liu, H. – M. & Tsao, F. – M. (2010 inpress)</u> . The Standardization and Application of Mandarin-Chinese Communicative Developmental Inventory for Infants and Toddlers. <i>Formosa Journal of Mental Health</i> , 23(4), xx-xx.	There is a manual with the inventories. They were published by The Profile of Psychological Publishing Co., Ltd. In Taiwan.

PLANS FOR FUTURE WORK

I am interested in developing the shortform versions, and would be glad to learn more from it.

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Publications:

Liu, H. – M. & Tsao, F. – M. (2010). The Standardization and Application of Mandarin-Chinese Communicative Developmental Inventory for Infants and Toddlers. *Formosa Journal of Mental Health*, 23(4), 503-534. (in Chinese)

Liu, H. – M. & Tsao, F. – M. (2010). The manual of Mandarin-Chinese Communicative Developmental Inventory for Infants and Toddlers. Taipei, Taiwan: The Profile of Psychological Publishing Co., Ltd.

Website of the Publisher:
<http://www.psy.com.tw/com.php>

Croatian

[Information from a previous update; unable to obtain current information]

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Kovacevic, M., Babic, Z., & Brozovic, B. (1996). A Croatian language parent report study: Lexical and grammatical development. Paper presented at the VIIth International Congress for the Study of Child Language, July 1996, Istanbul, Turkey.

Cypriot Greek

Person Preparing Report: Dr. Kleanthes Grohmann and Dr. Maria Kambanaros

Date: October 29, 2011

Research and Development underway

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Danish

Person Preparing Report: Christina Andersen

Date: November 12, 2010

Forms Developed	Status	Available for Distribution	Norms?	Validity Evidence	Manual?
<p>CDI:WG CDI:WS</p>	<p>Final Versions</p>	<p>Yes, it is available to others on the internet in the CDI CLEX database (= Cross Linguistic Lexical Norms): http://www.cdi-clex.org and through publications).</p>	<p>Yes, there are norms for the Danish instrument on the internet in the CDI CLEX database (= Cross Linguistic Lexical Norms): http://www.cdi-clex.org. All results for the Danish CDI:WG study are based on a total of 2398 Danish children in the age of 8 to 20 months. The Danish CDI:WS study are based on a total of 3714 Danish children in the age of 16 to 36 months.</p> <p>Also see the norms in the Danish manual: Bleses, D., Vach, W., Wehberg, S., Faber, K. & Madsen. T. O. (2007). <i>Tidlig kommunikativ udvikling. Et værktøj til beskrivelse af sprogtilegnelse baseret på CDI-forældrerapportundersøgelser af danske normalthørende og hørehæmmede børn.</i> [= Instrument to assess the language development based on CDI parental reports in Danish normal hearing and hearing impaired children] Syddansk Universitetsforlag [= University Press of Southern Denmark].</p> <p>Also see some of the norms in the article by: Bleses, D., Vach, W.,</p>	<p>See the article by: Bleses, D., Vach, W., Slott, M., Wehberg, S., Thomsen, P., Madsen, T. & Basbøll, H. (2008). The Danish Communicative Development Inventories: validity and main developmental trends. <i>Journal of Child Language</i>, 35, 651-669. A citation pp. 660-661:</p> <p>“Based on comparisons between spontaneous speech data and CDI data we were able to conclude that : “the investigations of the validity and reliability of the Danish CDI instrument suggest that: (a) most common words and a substantial part of the less common words used spontaneously by Danish children are included in the vocabulary lists; (b) the vocabulary development of Danish children as measured by the CDI seems to correlate adequately with the growth of word types in spontaneous speech as measured in four Danish children’s spontaneous speech productions; and (c) values of internal consistency of different scales of the Danish CDI were found to be satisfactory. We</p>	<p>Yes, see: Bleses, D., Vach, W., Wehberg, S., Faber, K. & Madsen. T. O. (2007). <i>Tidlig kommunikativ udvikling. Et værktøj til beskrivelse af sprogtilegnelse baseret på CDI-forældrerapportundersøgelser af danske normalthørende og hørehæmmede børn.</i> [= Instrument to assess the language development based on CDI parental reports in Danish normal hearing and hearing impaired children] Syddansk Universitetsforlag [= University Press of Southern Denmark].</p> <p>More detailed information on the conduct of the Danish CDI instrument and study can be found in: Andersen, C., Vach, W., Wehberg, S. & Bleses, D. (2006): Conduct of the Danish CDI</p>

			Slott, M., Wehberg, S., Thomsen, P., Madsen, T. & Basbøll, H. (2008). The Danish Communicative Development Inventories: validity and main developmental trends. <i>Journal of Child Language</i> , 35, 651-669.	therefore conclude that the Danish adaptation of the American CDI has been adjusted linguistically and culturally in appropriate ways which makes it suitable for tapping into Danish children's language acquisition".	Studies. Working papers. Center for Child Language e-prints No. 1.
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PLANS FOR FUTURE WORK

We are working on a CDI III version for Danish, Swedish and American English children in the age of 3 to 4 years of age. We have also made a CDI short form that is part of the Danish screening tool SI3. See the papers below:

Vach, W., Bleses, D. & Jørgensen, R. (2010). Construction of a Danish CDI short form for language screening at the age of 36 months: Methodological considerations and results. *Clinical Linguistics & Phonetics*, August 2010, Vol. 24, No. 8, pp. 602-621. Early Online, 1-20. Informa Healthcare. <http://informahealthcare.com/doi/pdf/10.3109/02699201003710606>

Bleses, D., Vach, W., Jørgensen, R. N., & Worm, T. (2010). The internal validity and acceptability of the Danish SI-3: a language screening instrument for 3-year-olds. *Journal of Speech, Language and Hearing Research*, 53, 490-507.

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Bleses, D., Vach, W., Slott, M., Wehberg, S., Thomsen, P., Madsen, T. & Basbøll, H. (2008). The Danish Communicative Development Inventories: validity and main developmental trends. *Journal of Child Language*, 35, 619-650.

Bleses, D., Vach, W., Slott, M., Wehberg, S., Thomsen, P., Madsen, T. & Basbøll, H. (2008). Early vocabulary development in Danish and other languages: a CDI-based comparison. *Journal of Child Language*, 35, 651-669.

Wehberg, S., Vach, W., Bleses, D., Thomsen, P., Madsen, T. O. & Basbøll, H. (2008). Girls talk about dolls and boys about cars? Analyses of group and individual variation in Danish children's first words. *First Language*, 28, (1), 71-85.
URL to Center for Child Language, University of Southern Denmark: <http://www.sdu.dk/cfb>

Dutch

Person Preparing Report: Inge Zink

Date: November 15, 2010

Forms Developed	Status	Available for Distribution	Norms?	Validity Evidence	Manual?
CDI:WG CDI:WS CDI III	Final versions	Yes: Zink I. & Lejaegere M. (2002) <i>N-CDIs: Lijsten voor Communicatieve Ontwikkeling</i> . Acco, Leuven/Leusden. We have sent the manual to Larry Fenson in 2002. This publication (manual) contains both lists (Words and Gestures and Words and Sentences). CDI III manual is published: Zink I. & Lejaegere M. (2007) <i>N-CDI 3. Aanpassing en hernormering van de MacArthur CDI: Level III van Dale et al. (2000)</i> , Acco, Leuven (Belgium)/Leusden (Netherlands).	Norms are published in the manuals for all CDI's.	In the manual for CDI:WS AND WG we mention validity studies (concurrent validity and predictive validity) CDI III- We calculated correlations between the N-CDI 3 and de the Dutch version of the Peabody Picture Vocabulary Test (PPVT-III-NL) and between de N-CDI 3 and subtest productive vocabulary from the Schlichting Test voor Taalproductie (Dutch Language Test). The correlations are high and significant. So we can conclude that there is a correlation between the different parts of the CDI 3 and vocabulary tests (receptive and expressive).	Yes there is a manual for the instrument: Zink I. & Lejaegere M. (2002) <i>N-CDIs: Lijsten voor Communicatieve Ontwikkeling</i> . Acco, Leuven/Leusden. We have sent the manual to Larry Fenson in 2002. CDI III- Yes there is a manual for the instrument. I think we have sent it to Larry Fenson in 2007. I'm not sure. If you didn't get it, we can always send you a copy.

PLANS FOR FUTURE WORK

We developed short forms (N-CDI 1 and N-CDI 2: Zink & Lejaegere, 2003).

We developed a version for children with Intellectual Disabilities who use manual signs. This version is not published but we published about this research in *Journal of Speech, Language and Hearing Research*: Joke Vandereet, Bea Maes, Dirk Lembrechts, and Inge Zink. Predicting Expressive Vocabulary Acquisition in Children with Intellectual Disabilities: A 2-year Longitudinal Study (J Speech Lang Hear Res Vol 53, 1-14, December 2010).

CONTACT INFO AND PUBLICATIONS

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JARID (Journal of Applied Research in Intellectual Disabilities): Vandereet, J., Maes, B.,
Lembrechts, D. & I. Zink (2010, 23, 154–166)

Journal of Speech, Language and Hearing Research: Joke Vandereet, Bea Maes, Dirk
Lembrechts, and Inge Zink. Predicting Expressive Vocabulary Acquisition in Children with
Intellectual Disabilities: A 2-year Longitudinal Study (J Speech Lang Hear Res Vol 53, 1-14,
December 2010)

English (Australian)

[Information from a previous update; unable to obtain current information]

Denis Burnham
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English (British)

Person Preparing Report: Katie Alcock

Date: December 13, 2011

Forms Developed	Status	Available for Distribution	Norms?	Validity Evidence	Manual?
CDI:WG CDI:WS	Several Preliminary versions are available (Lincoln and Oxford)	The Oxford and Lincoln versions are available via the internet (links below). Neither of these include gestures but a pilot gesture questionnaire is available from Katie Alcock via email. http://www.lincoln.ac.uk/psychology/babylab.htm http://babylab.psy.ox.ac.uk/research/oxford-cdi	No, but there is an online data base available into which we entered the anonymised parental questionnaire data.	A pilot study. We tested children at 9, 12, 18 and 24 months and found – in general – that Intermodal Preferential Looking results coincide with CDIs estimates from parents.	No Manual

PLANS FOR FUTURE WORK

Yes, we are creating a UK short form with 100 items together with the CDI:Words & Gestures, and are looking towards standardising the CDI:Words & Sentences as well as the CDI III for the UK.

CONTACT INFO AND PUBLICATIONS

The links are not really ready for people to download CDIs or data from since the finalized versions are not yet completed.

Team consists of Caroline Rowland, Kerstin Meints and Katie Alcock

Katie Alcock

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English (New Zealand)

Person Preparing Report: Elaine Reese

Date: April 11, 2011

Forms Developed	Status	Available for Distribution	Norms?	Validity Evidence	Manual?
CDI:WS	Final	Yes, I email it upon request	No, but Stephanie Stokes and Tom Klee at the University of Canterbury would like to collaborate with me in developing norms for the NZ CDI: II.	Reese, E., & Read, S. (2000). Predictive validity of the New Zealand MacArthur Communicative Development Inventory: Words and Sentences. <i>Journal of Child Language</i> , 27, 255-266.	No

PLANS FOR FUTURE WORK

We have developed a short form of the NZ CDI:II based on our latest adaptation. We have received permission to use this adapted short form with 6700 families in the Growing Up in NZ study at age 2. As mentioned above, Stephanie Stokes and Tom Klee at the University of Canterbury have discussed a possible norming study of the CDI: II long form, for which they have invited me to collaborate.

CONTACT INFO AND PUBLICATIONS

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Reese, E. & Read, S. (2000). Predictive validity of the New Zealand MacArthur Communicative Development Inventory: Words and sentences. *Journal of Child Language*, 27(2), 255-266.

<http://psy.otago.ac.nz/staff/reese.html>

Estonian

Persons Preparing Report: Tiia Tulviste & Astra Schults

Date: March 10, 2011

Forms Developed	Status	Available for Distribution	Norms?	Validity Evidence	Manual?
CDI:WG CDI:WS	Final Preliminary. Changes are needed in the grammar part (E. Complexity) as Estonian grammar differs much from English grammar.	Yes, if they ask it from us	We have the norms	No, but there were statistically significant correlations between the results of CDI and the size of children's vocabulary in real-life mother-child interactions (we used CHILDES).	No

PLANS FOR FUTURE WORK

Yes.

CONTACT INFO AND PUBLICATIONS

Tiia Tulviste

Email: tiia.tulviste@ut.ee

Tulviste, T. (2007). Variation in vocabulary development among Estonian children as a function of child's gender, birth order, child-care, and parental education. In M Eriksson (Ed.), *Proceedings from the First European Network Meeting on the Communicative Development Inventories* (pp. 16-21). Gävle, Sweden: University of Gävle.

Eriksson, M., Marschik, P. B., Tulviste, T., Almgren, M. et al., (2011). Differences Between Girls and Boys in Emerging Language Skills: Evidence from 10 Language Communities. Submitted.

Schults, A., Tulviste, T., & Konstabel, K. (2011). Early vocabulary and gestures in Estonian children. Submitted.

Finnish (Short)

Person Preparing Report: Dr. Suvi Stolt

Date: January 28, 2011

I have received an authorization from the CDI Advisory Board to translate and adapt the short form versions of the CDI in Finnish, and to accomplish the norming study. At the moment (December 2010), the translation / adaptation process of the short form inventories is nearly finished. The ethical committee of the University of Turku has given its' approval for the research plan in December 2010. The data collection will begin in spring 2011

CONTACT INFO AND PUBLICATIONS

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Finnish (Long Form)

Person Preparing Report: Paula Lyytinen

Date: October 30, 2010

Forms Developed	Status	Available for Distribution	Norms?	Validity Evidence	Manual?
CDI:WG CDI:WS	The present versions are final	Inventories are available freely via net from Niilo Mäki Institute (www.nmi.fi/en/) ie. a nonprofit organization mediating services for professionals supporting children with neurodevelopmental problems; access from: www.nmi.fi/julkaisutilaus.htm the Finnish title of the assessment tool is: Varhaisen kommunikaation ja kielen kehityksen arviointimenetelmä	Yes, there are norms which are available from the given address	Yes, please, have a look of the appended updated list of relevant publications	Yes, available from the given address

PLANS FOR FUTURE WORK

No plans now.

CONTACT INFO AND PUBLICATIONS

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Lyytinen, P., Poikkeus, A-M., Laakso, M-L., Eklund, K., & Lyytinen, H. (2001). Language development and symbolic play in children with and without familial risk for dyslexia. *Journal of Speech, Language and Hearing Research*, 44, 873-885.

Lyytinen, P., & Lyytinen, H. (2004). Growth and predictive relations of vocabulary and inflectional morphology in children with and without familial risk for dyslexia. *Applied Psycholinguistics*, 25, 397-411.

Lyytinen, P., Eklund, K., & Lyytinen, H. (2005) Language development and literacy skills in late-talking toddlers with and without familial risk for dyslexia. *Annals of Dyslexia*, 55, 166-192.

Torppa, M., Lyytinen, P., Erskine, J, Eklund, K., & Lyytinen, H. (2010). Language development, literacy skills, and predictive connections to reading in Finnish children with and without familial risk for dyslexia. *Journal of Learning Disabilities*, 43, 308-321.

French (Canadian)

Person Preparing Report: Natacha Trudeau

Date: November 4, 2011

Forms Developed	Status	Available for Distribution	Norms?	Validity Evidence	Manual?
CDI:WG CDI:WS	Final versions	It is available on the Université de Montréal website, at the following address: http://codereoa.eoa.umontreal.ca/fmi/xsl/trudeau_N_outil_eval/addrecord.xml?-view People are asked to provide some contact information and can then access the questionnaire.	Yes. Norms were gathered on a sample of 1300+ children. They are available through the same website.	Yes. Concurrent validity: We correlated the main scores on the Inventories to related measures derived from freeplay samples in a group of children from four age groups (8-10, 13-15, 19-21, 26-28 months). The correlations were moderate to very strong for all verbal measures. They were lower (but still significant) for gestures.	Yes. At the same address as the questionnaires and norms. The manual also contains the detailed reliability results.

PLANS FOR FUTURE WORK

The provincial government would like to use short forms (about 25 words) to follow language development as a health marker between 18 and 30 months of age. Discussions are in the early stages for this initiative.

There are short forms for the two inventories (also available on the website), but no norms or validity data. These are different from the (even shorter) form that the provincial government was hoping to develop, which is mentioned above.

CONTACT INFO AND PUBLICATIONS

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Recent publications about the adaptation and its norms/validity:

Boudreault, M.-C., Cabirol, É.-A., Trudeau, N., Poulin-Dubois, D., & Sutton, A. (2007). Les Inventaires Macarthur du développement de la communication : validité et données normatives préliminaires. *Journal of Speech-Language Pathology and Audiology*, 31(1), 27-37.

Trudeau, N. & et coll. (2008). Inventaires MacArthur-Bates du développement de la communication: Manuel de l'utilisateur.

http://132.204.140.194/fmi/xsl/trudeau_N_outil_eval/addrecord.xsl?-view.

Recent publications using the adaptation:

Kay-Raining Bird, E., Cleave, P. L., Trudeau, N., Thordardottir, E., Sutton, A., & Thorpe, A. (2005). The language abilities of bilingual children with Down syndrome. *American Journal of Speech-language Pathology*, 14(3), 187-199.

Elin Thordardottir (2005). Early lexical and syntactic development in Québec French and English: implications for cross-linguistic and bilingual assessment. *International Journal of Language and Communication*, 40 (3) : 243-278.

Bouchard, C., Trudeau, N., Bigras, N., & Sutton, A. (2008). Vocabulaire des enfants âgés entre 8 et 30 mois qui fréquentent un service de garde structuré. In N. Bigras & G. Cantin (Eds.), *Les services de garde éducatifs à la petite enfance du Québec: Recherches, réflexions et pratiques* (pp. 167-178). Québec (Québec): Presses de l'Université du Québec.

Bouchard, C., Trudeau, N., Sutton, A., Boudreault, M.-C., & Deneault, J. (2009). Gender differences in language development in French Canadian children between 8 and 30 months of age. *Applied Psycholinguistics*, 30(4), 685-707.

Duchesne, L., Sutton, A., Bergeron, F., & Trudeau, N. (2010). Le développement lexical précoce des enfants porteurs d'un implant cochléaire. *Revue Canadienne d'orthophonie et d'audiologie*, 43, 132-145.

Poulin-Dubois, D., Blaye, A., Coutyal, J., & Bialystok, E. (in press). The effects of bilingualism on toddlers' executive functioning. *Journal of Experimental Psychology*.

Trudeau, N. & Sutton, A. (accepted, March 2011). Expressive vocabulary and early grammar of 16- to 30-month-old children acquiring Quebec French. *First Language*, 33 pages.

French (European)

Person Preparing Report: Sophie Kern

Date: October 14, 2010

Forms Developed	Status	Available for Distribution	Norms?	Validity Evidence	Manual?
CDI:WG CDI:WS CDI-III	Final Final Developing	In the Manual Kern, S. & F. Gayraud (2010). IFDC. Les Editions la cigale, Grenoble	In the Manual Kern, S. & F. Gayraud (2010). IFDC. Les Editions la cigale, Grenoble	Kern, S & Gayraud, F., 2010, IFDC. Les Editions la cigale, Grenoble , pp 30-32	Yes Kern, S. & F. Gayraud (2010). IFDC. Les Editions la cigale, Grenoble

PLANS FOR FUTURE WORK

We have developed three short forms (12, 18 and 24 months of age).

There are available at <http://www.editions-cigale.com/ressource/IFDC-8-30-mois-version-courte>
Norms are given in Kern, S., Langue, J., Zesiger, P., Bovet, F., 2010. Adaptations françaises des versions courtes des inventaires du développement communicatif de MacArthur-Bates, ANAE, vol 22, numéro 107-108.

CDI-III in development.

CONTACT INFO AND PUBLICATIONS

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Kern, S. & F. Gayraud (2010). IFDC. Les éditions la cigale, Grenoble
Kern, S., 2007, "Lexicon development in French-speaking infants", *First Language*, 27:3, pp. 227-250

Kern, S. & Gayraud, F., 2007, "Influence of preterm birth on early lexical and grammatical acquisitions in French", *First Language*, 27:2, pp. 159-173

Galician

Person Preparing Report: Miguel Pérez-Pereira

Date: October 11, 2010

Forms Developed	Status	Available for Distribution	Norms?	Validity Evidence	Manual?
CDI:WG CDI:WS	Final versions	Request to the authors. Through a web page (in preparation). We are preparing the technical manual now.	Request to the authors. We are preparing the technical manual and a web page where parents will be able to fill in the forms on line.	Not for the CDI Words & Gestures, but yes for Words & Sentences. Pérez-Pereira, M., & Resches, M. (2011). Concurrent and predictive validity of the Galician CDI. <i>Journal of Child Language</i> , 38(1), 121-140. Pérez Pereira, M. & Resches, M. (2007) Elaboración de las formas breves del <i>Inventario do Desenvolvemento de Habilidades Comunicativas</i> . Datos normativos y propiedades psicométricas. <i>Infancia y Aprendizaje</i> , 30 (4), 565-588. Miguel Pérez Pereira & X.R. García Soto (2003). El diagnóstico del desarrollo comunicativo en la primera infancia: adaptación de las escalas MacArthur al gallego. <i>Psicothema</i> , 15 (3), 352-361	The manual is in progress, and we would like to finish it by the end of 2011.

PLANS FOR FUTURE WORK

We have already completed the short form, and it will appear in the technical manual as well. We are collaborating with Judy Reilly in the development of a part to include in the CDI-III to assess narrative capacity of children.

CONTACT INFO AND PUBLICATIONS

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 Spain

Most recent publications:

- Pérez Pereira, M. & Resches, M. (2007) Elaboración de las formas breves del *Inventario do Desenvolvemento de Habilidades Comunicativas*. Datos normativos y propiedades psicométricas. *Infancia y Aprendizaje*, 30 (4), 565-588.
- Pérez-Pereira, M., Almgren, M., Resches, M., Ezeizabarrena, M^a J., Díaz, C., García, I. (2007) Cross-linguistic comparisons between Basque and Galician. In M. Eriksson (ed.),

- Proceedings from The First European Network Meeting on Communicative Development inventories*. Pgs. 22-31. Gävle: Sweden, Gävle University Press. ISBN 978-91-974948-8-5.
- Pérez-Pereira, M., Resches, M. & Fernández, P. (2007). Differences in language development between monolingual (Galician) and bilingual (Galician-Spanish) children. In M. Eriksson (ed.), *Proceedings from The First European Network Meeting on Communicative Development inventories*. Pgs. 93-102. Gävle: Sweden, Gävle University Press. ISBN 978-91-974948-8-5
- Pérez-Pereira, M. (2008). Early Galician/Spanish bilingualism: contrasts with monolingualism. In C. Pérez-Vidal; M. J. Garau & A. Bel (Eds.) *A portrait of the young in the new multilingual Spain*. Clevedon: Multilingual Matters. Pgs. 39-62. ISBN-13: 978-1-84769-023-4 (hbk), ISBN-13: 978-1-84769-022-7 (pbk).
- Pérez Pereira, M., & Resches, M. (2008). Validez concurrente y predictiva del IDHC. Implicaciones para el posterior desarrollo del lenguaje y de la cognición social. In E. Díez-Itza (Ed.), *Estudios de desarrollo del lenguaje y educación*. (pp. 87-94). Oviedo: Universidad de Oviedo ICE. ISBN: 978-84-88828-29-3.
- Pérez Pereira, Miguel (2008). A adquisición da lingua. En Elisa Fernández Rei & Xose Luis Regueira (Eds.), *Perspectivas sobre a oralidade*. Pags. 169-186. Santiago de Compostela: Consello da Cultura Galega – Instituto da Lingua Galega.
- Pérez-Pereira, M. & Resches, M. (2009). Relationships between linguistic and behavioral measures during development. In Grinstead, J. *Hispanic Child Languages: Typical and impaired development*. Pgs 217-237. Amsterdam: John Benjamins.
- Pérez-Pereira, M., & Resches, M. (2011). Concurrent and predictive validity of the Galician CDI. *Journal of Child Language*, 38(1), 121-140

German

Person Preparing Report: Gisela Szagun

Date: October 29, 2010

Forms Developed	Status	Available for Distribution	Norms?	Validity Evidence	Manual?
CDI:WS	Final. It would be good, however, in the long run, to collect data bringing the sample of the lowest parental education to the proportion corresponding more closely to the figures in the population census of Germany.	<p>It was published in German in 2009 by Person Assessment:</p> <p>Szagun, G., Stumper, B. & Schramm, A.S. (2009). <i>Fragebogen zur frühkindlichen Sprachentwicklung (FRAKIS) und FRAKIS-K (Kurzform)</i>. Frankfurt: Pearson Assessment.</p> <p>This instrument is equivalent to the toddler CDI, age span 1;6 to 2;6. It includes a Short Form Version. Unfortunately, we were not able to give the instrument the name “GCDI” because of, at the time, unresolved problems regarding the short parental questionnaire ELFRA by H. Grimm. There is an earlier publication of our instrument in English with a different and smaller sample. This was a study serving as a large pilot when we were still developing our instrument:</p> <p>Szagun, G.,</p>	Yes, there are norms. They are published, see 2009 publication above. There are norms for the long FRAKIS and for the Short Form version FRAKIS-K.	Our instrument was validated (concurrent validity) on spontaneous speech data of 60 children of the total sample of 1240. Two hours spontaneous speech were collected and MLU and type frequency were correlated with the vocabulary and grammar measures of the questionnaire. The results are published in the FRAKIS publication, 2009, see above. There is excellent concurrent validity on all measures.	Yes, there is a Manual in the publication, see above. There are also guide lines on how to interpret the numerical values of the grammar scales (Inflectional Morphology scale and Sentence Complexity scale). FRAKIS gives relatively detailed information about a child’s grammatical level assessing the child’s performance in different inflectional paradigms. On the basis of this and the other information (vocabulary and sentence complexity) it is possible to draw up an individual

		<p>Steinbrink, C., Franik, M. & Stumper, B. (2006). Development of vocabulary and grammar in young German-speaking children assessed with a German language development inventory. <i>First Language</i>, 26, 259-280.</p> <p>A publication in English of the normed FRAKIS and FRAKIS-K is in preparation.</p>			<p>child's developmental profile. Three examples of such profiles are given in the publication Manual.</p>
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PLANS FOR FUTURE WORK

Plans for:

- Questionnaire and norming study for 2;7 to 3;0 year old children
- Additional data collection with all instruments from parents of lower educational level

CONTACT INFO AND PUBLICATIONS

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 Website: www.giselaszagun.com

Literature describing the spontaneous speech data the items in FRAKIS are based on

- Szagun, G. (2001). Learning different regularities: The acquisition of noun plurals by German-speaking children. *First Language*, 21, 109-141.
- Szagun, G. (2004a). German – Szagun. Talk Bank. <http://chilides.psy.cmu.edu>
- Szagun, G. (2004b). Learning by ear: On the acquisition of case and gender marking by German-speaking children with cochlear implants and with normal hearing. *Journal of Child Language*, 31, 1-30.
- Szagun, G., Stumper, B. Sondag, N. & Franik, M. (2007). The acquisition of gender marking by young German-speaking children: Evidence for learning guided by phonological regularities. *Journal of Child Language*, 34, 445-471.

German (Austrian)

Person Preparing Report: Peter B Marschik, Ralf Vollmann, Christa Einspieler

Date: November 4, 2010

Forms Developed	Status	Available for Distribution	Norms?	Validity Evidence	Manual?
CDI:WG CDI:WS CDI-III	Final Final Preliminary	via personal contact (peter.marschik@medunigraz.at)	Norms in progress	Marschik, PB; Einspieler, C; Garzarolli, B; Prechtel, HF, 2007: Events at early development: are they associated with early word production and neurodevelopmental abilities at the preschool age? Early Hum Dev. 2007; 83(2): 107-114. CDI-III work in progress	No manual yet

PLANS FOR FUTURE WORK

We are currently planning to submit an application for funding for a pre-doc position in order to continue with the norming procedures; we have also developed a short version for the ages 22-26 months and the routine pediatric assessment in Austria; it is currently under evaluation for implementation in this routine clinical assessment. Depending on the outcome of the evaluation, a norming study will be conducted.

CONTACT INFO AND PUBLICATIONS

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Marschik, PB; Einspieler, C; Garzarolli, B; Prechtel, HF, 2007: Events at early development: are they associated with early word production and neurodevelopmental abilities at the preschool age? Early Hum Dev. 2007; 83(2): 107-114.

Marschik, PB; Vollmann, R; Einspieler, C, 2007: The Austrian-CDI: Late talkers, their lexical knowledge, cognitive and neurological performance at preschool age. In: Eriksson, M editors(s). Proceedings from the First European Network Meeting on the Communicative Development Inventories.. Gävle: Gävle University Press; p. 116. (ISBN: 978-91-974948-8-5)

Marschik, PB; Dibiasi Pansy, J; Vollmann, R; Einspieler, C, 2009: Entwicklungsauffälligkeiten bei transienten und konsistenten Late Talkers. Kinderärztliche Praxis. 2009; (80): 337-342. (Article in German)

Our homepage is currently under construction but information on the Austrian-CDI will be available soon on <http://www.medunigraz.at/physiologie/dpdn>

Greek

Person Preparing Report: Ursula Stephany

Date: November 18, 2010

Forms Developed	Status	Available for Distribution	Norms?	Validity Evidence	Manual?
CDI:WS	Preliminary	No	Not yet	Not yet	No

PLANS FOR FUTURE WORK

No present plans

CONTACT INFO AND PUBLICATIONS

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Hebrew

Person Preparing Report: Esther Dromi

Date: December 19, 2010

Forms Developed	Status	Available for Distribution	Norms?	Validity Evidence	Manual?
CDI:WG	Final, not commercial use	Researchers and Students get a PDF file from me in email (for both CDIs)	No Norms. Statistical Analyses on a sample of 180 children is available in an unpublished MA thesis.	NO JCL 2000 Meital et.al.	Not yet. Hope to write one manual for WG and for WS and to publish it as a booklet
CDI:WS	Preliminary, statistical analyses of section B are not completed yet		No. Only data published in JCL 2000		

PLANS FOR FUTURE WORK

I would like to develop a short form and also eager to find resources/funds to create a www version that people will be able to use via internet. I hope that in the future I will have a graduate student who will choose to work on that project including the publication of a manual in Hebrew.

CONTACT INFO AND PUBLICATIONS

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Hungarian

Person Preparing Report: Bence Kas

Date: November 20, 2010

Forms Developed	Status	Available for Distribution	Norms?	Validity Evidence	Manual?
CDI:WG CDI:WS	Final Versions	It is not yet available to the public since norming is still in progress, and we plan to publish the instrument together with the norms. Is this the common way with the CDI or do people distribute the instruments without norms?	Norming is in progress, we have collected and processed cross-sectional data from 54 children and are running a longitudinal research with 30 children measured systematically by 2 months.	<p>No, we only measured the validity of some parts in the Words & Sentences form.</p> <p>CDI:WS We conducted two validity studies: (i) for the animal name part of the word list, and (ii) for the case marking morphology part which is new in the Hungarian version. We have published the results in the Hungarian Special Education Review which is available online: http://www.prae.hu/prae/gyosze.php?menu_id=102&jid=32&jaid=469</p> <p>As it is written in Hungarian, I attached a brief summary in English and would appreciate comments on the results and on their potential interest to the international professional community.</p>	No, we are only going to write one for the future publication of the instrument together with the data.

PLANS FOR FUTURE WORK

Yes, we are planning to produce short form of the Words & Sentences for more effective screening purposes. We think that we will be able to select the items for the short form on the base of the data collected with the full version.

CONTACT INFO AND PUBLICATIONS

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Icelandic

Person Preparing Report: Elin Thordardottir

Date: October 1, 2010

Forms Developed	Status	Available for Distribution	Norms?	Validity Evidence	Manual?
CDI: WS	FINAL (though it is almost 20 years old and I have considered revising it. It was developed as part of my Master's thesis in 1993. The norms were completed in 1998)	YES, Distributed through a Speech and Language Clinic in Reykjavik: Talþjálfun Reykjavíkur, Bolholti 6, 105 Reykjavik, Iceland. It is in wide clinical use in Iceland.	YES. The norms are contained in a manual that is obtained with the test forms from Talþjálfun Reykjavíkur	Elin T. Thordardottir & Ellis Weismer, S. (1996). Language assessment via parent report: Development of a screening instrument for Icelandic children. <i>First Language</i> , 16, 265-285. A preliminary version was administered to 18 children and results in vocabulary and grammar were compared to language sample data. A revised version was constructed and again tried on 18 children with comparison to language sample data. These analyses supported the validity of the instrument (correlations with language sample measures were very high).	YES, (the manual is in Icelandic), distributed through a Speech and Language Clinic in Reykjavik: Talþjálfun Reykjavíkur, Bolholti 6, 105 Reykjavik, Iceland. It is in wide clinical use in Iceland.

PLANS FOR FUTURE WORK

There is a short version, which contains only the vocabulary checklist and section II-E. I have considered revising the checklist and renorming it given that it is 18 years old and I may yet do so.

CONTACT INFO AND PUBLICATIONS

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Elin T. Thordardottir, Ellis Weismer, S., and Evans, J. (2002). Continuity in lexical and morphological development in Icelandic and English-speaking 2-year-olds. *First Language*, 22, 3-28.

Irish

Person Preparing Report: Ciara O'Toole

Date: May 5th, 2011

Forms Developed	Status	Available for Distribution	Norms?	Validity Evidence	Manual?
CDI: WS CDI: WG	Preliminary Preliminary	Yes No	Preliminary norms for W&S. This is made more complicated due to the bilingual nature of the acquisition of Irish	O'Toole C & Fletcher, P (2010). Validity of a parent report for Irish-speaking toddlers. <i>First Language</i> 30 (2) 199-217	There is currently no manual for the instrument

PLANS FOR FUTURE WORK

Currently extending the norming of Words and Sentences, including children with a wider range of bilingual language exposure. Norming of Words and Gestures has also begun. There are currently no plans for an adaptation of the CDI III

CONTACT INFO AND PUBLICATIONS

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O'Toole, C. and Fletcher, P. (2008). Developing assessment tools for bilingual and minority language acquisition. *Journal of Clinical Speech and Language Studies* 16, 12-27 (paper available on request)

O'Toole C & Fletcher, P (2010). Validity of a parent report for Irish-speaking toddlers. *First Language* 30 (2) 199-217

O'Toole, C. & Fletcher, P. (2011). Profiling vocabulary acquisition in Irish. *Journal of Child Language First View Articles*, 1-16

URL: <http://publish.ucc.ie/researchprofiles/C025/cotoole>

Italian

Person Preparing Report: Maria Cristina Caselli

Date: November 29, 2010

Forms Developed	Status	Available for Distribution	Norms?	Validity Evidence	Manual?
CDI:WG CDI:WS	Final versions	It can be downloaded from: http://www.francoangeli.it/area_multimediale/elenco_libri.asp?cod=1305.5	Norms are available, are published in the Manual. Now we are working on updating and expanding existing norms (for children aged 8-24 months). CDI:WS Norms are available, are published in a book and can be downloaded from: http://www.francoangeli.it/area_multimediale/elenco_libri.asp?cod=1305.83	Caselli, M. C., Bates, E., Casadio, P., Fenson, J., Fenson, L., Sanderl, L., & Weir, J. (1995). A Cross-Linguistic Study of Early Lexical Development. <i>Cognitive Development</i> 10, 159-199. Caselli, M. C., Rinaldi, P., Stefanini, S., & Volterra, V. (2009). Actions and Gestures repertoires in infants from 8 to 18 months: relationships with early words' comprehension and production. <i>Età Evolutiva</i> , 93, 70-78. Caselli, M.C., Vicari, S., Longobardi, E., Lami, L., Pizzoli, C., e Stella, G. (1998). Gestures and words in early development of children with Down syndrome. <i>Journal of Speech, Language and Hearing Research</i> , 41/5, 1125-1135	The manual can be purchased in book stores or on-line (http://www.francoangeli.it)

PLANS FOR FUTURE WORK

We have created and collected normative data on the Short Form both for the for Words & Gestures and Words & Sentences Forms (respectively for children aged 8-18 months and 18-36 months).

Norms on the Gestures and Words short form are collected and they will be published next year. We are planning to develop the Italian Sign Language Form.

CONTACT INFO AND PUBLICATIONS

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The websites are:
<http://www.istc.cnr.it/createhtml.php?nbr=39>
<http://www.istc.cnr.it/ladd/>

Japanese

Person Preparing Report: Tamiko Ogura

Date: October 1, 2010

Forms Developed	Status	Available for Distribution	Norms?	Validity Evidence	Manual?
CDI:WG CDI:WS	Final Version JCDI	Yes. Kyoto International Social Welfare Exchange Center(Email: kiswec@mx2.wt.tiki.ne.jp). For the order from overseas, Kinokuniya shoten (Email: nbiz@kinokuniya.com)	Yes. Fitted Values for 8-18 months for JCDI:WG and 16-36 months for JCDI:WS are listed in the manual.	Yes. Ogura, T &. Suetsugu, A. (2010). “Infant’s Receptive Vocabulary in a Preferential Looking Task and Parental Reports” .Paper presented at CLS. The results provided high external validity for the accuracy of receptive vocabulary of JCDIs and IPL task. Fukuda, S., Ogura T. & Watamaki T.(2007) Nihongo MacArthur Nyuuyooji Gengo Hattatsu Shitsumonshi no datousei no Kento. Paper presented at JSDP. The correlations between observational data of play and JCDI: WS was .748 for vocabulary production and was .687 for MSL.	Yes. Kyoto International Social Welfare Exchange Center(Email: kiswec@mx2.wt.tiki.ne.jp) For the order from overseas, the Kinokuniya shoten (E-Mail: nbiz@kinokuniya.com) .

PLANS FOR FUTURE WORK

At present we do not have any plans to develop the short version of JCDIs.

CONTACT INFO AND PUBLICATIONS

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Ogura, T. and Watamaki, T. 2004 Technical Manual of the Japanese MacArthur Communicative Development Inventory: Words and Gesture, Kyoto International Social Welfare Exchange Center.

Watamaki, T. and Ogura, T. 2004 Technical Manual of the Japanese MacArthur Communicative Development Inventory: Words and Grammar, Kyoto International Social Welfare Exchange Center.

Kiswahili and Kigirama

Person Preparing Report: Katie Alcock

Date: October 6, 2010

Forms Developed	Status	Available for Distribution	Norms?	Validity Evidence	Manual?
CDI: WG CDI: WS	Final version Some changes would probably be necessary prior to standardization on the function words and the grammar questions.	For researchers working on Kenyan Coastal Kiswahili, or on Kigirama, it is available by contacting me. For researchers working on other dialects of Kiswahili, or other related languages, contacting me can initiate a dialogue which will help the researcher decide if they wish to go through the appropriate steps to adapt the CDI.	No norms	Yes - this paper is in prep	The paper in prep will provide some instructions (though it will not be a full manual)

PLANS FOR FUTURE WORK

We have one short form for the younger CDI and two, A and B, for the older CDI. Both include words only (not gestures, or grammar questions).

CONTACT INFO AND PUBLICATIONS

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Alcock, K. J., Rimba, K., Abubakar, A., & Holding, P. (2005). First words in two East African languages. Paper presented at the International Congress for the Study of Child Language, Berlin.

Alcock, K. J., Rimba, K., Abubakar, A., & Holding, P. A. (2007). Development of Communicative Development Inventories for rural Africa. Paper presented at the European Society for Developmental Psychology.

Alcock, K. J., Prado, E., Rimba, K., Kalu, R., Newton, C. R. J. C., & Holding, P. (2010). Parent report of language development in illiterate families the CDI in two developing country settings. Paper presented at the International Society for the Study of Behavioral Development.

Korean

Person Preparing Report: Soyeong Pae

Date: November 15, 2011

Forms Developed	Status	Available for Distribution	Norms?	Validity Evidence	Manual?
CDI:WG CDI:WS	Final Final	Yes, contact spae@hallym.ac.kr, kjkwak@snu.ac.kr, only for research purpose at this moment	Yes, there are norms, it will be available through the Korean Manual (in preparation)	Pae, S. (2003). Validity and reliability of the Korean adaptation of MCDI. <i>Korean Journal of Communication Disorders</i> , 8 (2), 1-14.	Not yet, it will be available in 2011

PLANS FOR FUTURE WORK

1. There are short versions of the M-B CDI-Korean.
2. Pae & Kwak are preparing the Korean manual.
3. We are preparing the concurrent & clinical validity study for the final version of M-B CDI-K.

CONTACT INFO AND PUBLICATIONS

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- Pae, S. (1993). Early vocabulary in Korean: Are nouns easier to learn than verbs? Unpublished doctoral dissertation. University of Kansas.
- Pae, S. (2003). Validity and reliability of the Korean adaptation of MCDI. *Korean Journal of Communication Disorders*, 8 (2), 1-14.
- Pae, S., Chang-Song, Y., Kwak, K., Sung, H., & Sim, H. (2004). MCDI-K referenced expressive word development of Korean children and gender differences. *Korean Journal of Communication Disorders*, 9 (1), 45-56.
- Pae, S., Kwak, K., Kim, M., Lee, H., & Jung, K. (2008). Short forms versions of MacArthur-Bates Communicative Development Inventories-Korean. *Journal of the Korean Society of Speech Sciences*, 15 (2), 119-129.

Maltese

Person Preparing Report: Daniela Gatt

Date: December 21, 2010

Forms Developed	Status	Available for Distribution	Norms?	Validity Evidence	Manual?
Vocabulary checklist of the CDI:WS	Preliminary version	It is available on request.	Preliminary norms are cited in an unpublished PhD manuscript; publications are planned.	Caregiver report was employed as a component of a triangulation of methods to measure the expressive vocabulary of a cohort of 44 12- to 30-month-olds. The checklist measures showed high and significant correlations with measures obtained from spontaneous language sampling ($r = .87$, p (two-tailed) $< .01$) and picture naming ($r = .85$, p (one-tailed) $< .01$).	There is no manual available

PLANS FOR FUTURE WORK

I would like to continue developing the Maltese adaptation further by collecting checklist data from larger cohorts of children so that a standardized tool may be developed.

CONTACT INFO AND PUBLICATIONS

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Gatt, D. (2007) Establishing the concurrent validity of a vocabulary checklist for young Maltese children. *Folia Phoniatica et Logopaedica*, 59 (6), 297-305.

Gatt, D., Letts, C. and Klee, T. (2008) Lexical mixing in the early productive vocabularies of young Maltese children: implications for intervention. *Clinical Linguistics and Phonetics*, 22 (4), 267-274.

Mozambique: Changana, Portuguese, Ronga

Person Preparing Report: Paul Vogt

Date: January 6, 2011

Project in progress

The Changana CDI is for use in a rural area, the Ronga/Portuguese one is for use in the urban area of Maputo. For both CDIs, we have carried out a norming survey among 430 (rural) and 300 (urban) subjects. The Ronga/Portuguese list was administered such that parents had to indicate if their infant knew the items on the list in either language irrespective of whether this was in Ronga or Portuguese, so there is – unfortunately – no detailed bilingual information available.

Forms Developed	Status	Available for Distribution	Norms?	Validity Evidence	Manual?
CDI-short form:WG	Final Version	Not Yet	Not Yet	No	No

PLANS FOR FUTURE WORK

The norming study is currently being analyzed and will be reported in a technical report.

CONTACT INFO AND PUBLICATIONS

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New Zealand English with Sign Vocabulary

Person Preparing Report: Susan Foster-Cohen

Date: February 8, 2011

Forms Developed	Status	Available for Distribution	Norms?	Validity Evidence	Manual?
CDI:WS	Yes. I have started trialling the NZCDI with Sign version and it is going really well. Parents do not appear to find the new version any harder to complete than the verbal version and preliminary results suggest it gives a much clearer picture of the vocabulary of children exposed to signs as an aid to verbal acquisition.	I am working in collaboration with Staphanie Stokes, Tom Klee and the New Zealand Institute of Language, Brain and Behaviour at the University of Canterbury. I would like the proposed version to be available to NZ colleagues generally. I would also like to think that others working in a sign plus spoken language environment would consider adding a sign column to their local versions.	My understanding is that there are no norms for the NZ CDI version developed by Elaine Reese but that Stephanie and Tom are now starting to collect this data. My version simply adds the opportunity to respond to the vocabulary questions with a sign equivalent.	The version I am proposing uses the validity of Elaine Reese's NZ CDI. I simply need the sign option because my therapy service encourages parents to use signed vocabulary with children with complex disabilities. The children's true vocabulary size would not be evident without offering this option.	No. Uses the same assumptions as the standard US version

PLANS FOR FUTURE WORK

No specific plans at the moment.

CONTACT INFO AND PUBLICATIONS

The research activity of the Champion Centre is only just getting off the ground, so I would be interested in a link once that is a bit better established. However, if you would like to be linked to the New Zealand Institute of Language, Brain and Behaviour website, Tom Klee is the person to contact.

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North Sami

Person Preparing Report: Kristine Bentzen

Date: November 18, 2010

Adaptation Process starting in January 2011 and tentative ending date in July 2013.

Summary: North Sami is an indigenous language spoken mainly in Northern Norway, but also in Northern Sweden and Northern Finland. It is a Finno-Ugric language, related to Finnish. In Norway there are about 25,000 native speakers of the language, and various measures are currently being taken to revive it.

Planning to develop the CDI:WG and CDI:WS

CONTACT INFO AND PUBLICATIONS

Authors:

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Berit Anne Bals Baal – Currently finishing her PhD at the Department of Language and Linguistics at the University of Tromsø, Norway.

Collaborators:

Marit Westergaard – Professor in linguistics and the director at CASTL

Mikael Svonni – Professor at the Department of Language and Linguistics

Jorun Hoier – Professor at the Educational Department

Professor Kristian Emil Kristoffersen and the group at the University of Oslo

Norwegian

Person Preparing Report: Kristian Emil Kristoffersen

Date: September 30, 2010

Forms Developed	Status	Available for Distribution	Norms?	Validity Evidence	Manual?
CDI: WG CDI: WS	Final Versions	At present, we distribute the forms to researchers and speech language therapists who contact us with a concrete plan for how they are going to use the forms. The plan is to publish the forms together with the manual when the final authorization is given.	There are norms, which will be made available in a scientific paper. The paper will be submitted in a few weeks from now.	Yes. This will also be made available through the paper mentioned in (c). Kristoffersen, K. E., Simonsen, H. G., Bleses, D., Wehberg, S., Jørgensen, R. N., Eiesland, E. A. & Henriksen, L. Y. (in progress). Development and variation in early communicative skills in infants and toddlers acquiring Norwegian – a CDI-based study.	A manual is in progress, and will be made available, first on the project website, and later published together with the forms.

PLANS FOR FUTURE WORK

We have plans for developing an adaptation into Norwegian of the CDI III

We have plans for developing a short form, and hope to have a preliminary version ready before next summer.

CONTACT INFO AND PUBLICATIONS

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Publications:

Kristoffersen, K. E., Simonsen, H. G., Bleses, D., Wehberg, S., Jørgensen, R. N., Eiesland, E. A. & Henriksen, L. Y. (in progress). Development and variation in early communicative skills in infants and toddlers acquiring Norwegian – a CDI-based study.

URL to website: <http://www.hf.uio.no/iln/forskning/prosjekter/spraakutvikling/index.html>

Persian

Person Preparing Report: Yalda Kazemi

Date: November 4, 2010

Forms Developed	Status	Available for Distribution	Norms?	Validity Evidence	Manual?
CDI:WG	Yes, we have a preliminary version of this form which can be used in comparative studies and not diagnostic studies.	Yes, the researchers can request it by directly requesting it from me, Yalda Kazemi. It has been sent to several researchers before on their request.	CDI:WG - There are some norms in Persian-speaking children who live in Isfahan (a central city in Iran); BUT these norms have been obtained to find the psychometric measures of validity and reliability of the TRANSLATED form. So it needs to be improved later.	Yes, An article has been published in an Iranian Journal and I have attached it to this email. It has an English abstract at the end of the paper.	CDI:WG - It can be prepared on request.
CDI:WS	CDI:WS- (Preliminary) Not completely, just in Vocabulary section and not the sentence part. An article about the results of this study is being written and further studies are being planned		CDI:WS no norms yet	CDI:WS Yes, but it is in Persian and it is different from the previous study. It needs to be translated to English.	CDI:WS- No

PLANS FOR FUTURE WORK

Absolutely, Yes. Our team is working on the next phase of finding psychometric values of the lexicon part of Infant and toddler forms which is finding the norms in a larger population and in different cities around Iran

CONTACT INFO AND PUBLICATIONS

The Persian article has been attached and everyone who wishes to have the Persian version of CDI (P-CDI) can contact the team organiser, Yalda Kazemi at the following address:

Team Information:

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Nayereh Mehdipour - SLP (Lecturer at the University of Welfare and Rehabilitation Sciences, Tehran, IRAN)

Tahereh Sima Shirazi - SLP (Lecturer and PhD student at the University of Welfare and Rehabilitation Sciences, Tehran, IRAN)

Dr. Shahin Nematzadeh (Linguist) - Lecturer at Azahra University, Tehran, IRAN

Polish

[Information from a previous update; unable to obtain current information]

(Data for the norming study are being collected.)

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Portuguese (Brazilian)

Person Preparing Report: Elizabeth Reis Teixeira

Date: May 12, 2011

Forms Developed	Status	Available for Distribution	Norms?	Validity Evidence	Manual?
CDI:WG CDI:WS	<p>CDI:WG There is a final version we have reached after a couple of validation studies. This was basically achieved through SILVA's Master's thesis and PhD. Dissertation under my supervision.</p> <p>CDI:WS In fact, this was the first form we adapted. There is a final version we have reached after a couple of validation studies.</p>	<p>CDI:WG Even though we have not concluded the normative study, we have forwarded the form to some research groups in the country on a tentative basis, but have not had them published yet.</p> <p>CDI:WS Even though we have not concluded the normative study, we have forwarded to some research groups in the country on a tentative basis, but have not published it yet.</p>	<p>CDI:WG We have not been able to finish the normative study yet. It is being difficult to find parents willing to cooperate. When they do so, they overestimate children's communicative facts... which means we have had to disregard a great amount of data collected</p> <p>CDI:WS We have not been able to finish the normative study yet. It is being difficult to find parents willing to cooperate. When they do, they overestimate children's communicative facts... which means we have had to disregard a great amount of data collected.</p>	<p>CDI:WG (See list of publications below)</p> <p>CDI:WG There were two subsequent periods of validation study, and there were changes in terms of quantity of items from the first to the second and third versions. We have presented and published papers with students under supervision, some of which relate to both forms. (See list of publications below and my paper attached)</p>	<p>The manual is under construction and we expect to have it published late this year.</p>

PLANS FOR FUTURE WORK

Yes. We are interested in the shortform versions.

CONTACT INFO AND PUBLICATIONS

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Shortly, we will have a URL address

SILVA, C. T. S. O desenvolvimento lexical inicial dos 8 aos 16 meses a partir do *Inventário Macarthur de Desenvolvimento Comunicativo* – protocolo *Palavras e Gestos*. **Dissertação Inédita de Mestrado**, UFBA, 2003.

SILVA, C. T. S. Construindo o vocabulário: desenvolvimento lexical inicial em Português Brasileiro. **Tese Inédita de Doutorado**, UFBA, 2007.

RIBEIRO, C. S. e TEIXEIRA, E. R. A Recorrência das Categorias Semânticas nos CDI's. **Anais do XXVII SEMEP – Seminário Estudantil de Pesquisa**. Salvador, UFBA: 2010.

TEIXEIRA, E.R. CDI's Adaptation to Brazilian Portuguese: Validation Study of the Words and Sentences Form. **X International Congress for the Study of Child Language**. Berlin, 2005. http://www.ctwcongress.de/iascl/download/iascl_abstracts.pdf (revised in 2011 and still unpublished).

TEIXEIRA, E.R. Adaptation of the CDI's Words and Sentences Form to Brazilian Portuguese: Validation Study. 2011 (unpublished paper).

Portuguese (European)

Person Preparing Report: Rosa Maria Lima

Date: October 13, 2010

Forms Developed	Status	Available for Distribution	Norms?	Validity Evidence	Manual?
CDI: WS	Yes. It is a final version, after piloting and several reviews	People can request it by writing to my email address	Not yet. We are waiting for consent from schools and parents all over the country (a heavy obstacle to deal with, in our country).	No	No

PLANS FOR FUTURE WORK

I have plans for short versions of all 3 CDIs.

I also intend on developing CDI: WG and CDI-III.

CONTACT INFO AND PUBLICATIONS

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Romani

Person Preparing Report: Hristo Kyuchukov

Date: December 15, 2010

Forms Developed	Status	Available for Distribution	Norms?	Validity Evidence	Manual?
CDI:WG CDI:WS	Preliminary Preliminary	Available only to my students. I show it to them during the lectures	There are no norms	Yes I have done some empirical research and I did analyze the data and I wrote an article which is in print (Kyuchukov, H. and Samuilov, S. (in print) ADAPTING BATES-MACARTHUR COMMUNICATIVE DEVELOPMENT INVENTORIES (CDI) TO ROMANI: A PILOT STUDY. In J. Stoyanova and H. Kyuchukov (eds) Psychology and Linguistics. Papers in honor of prof. Encho Gerganov. Sofia: Prosveta)	No, there is no manual

PLANS FOR FUTURE WORK

Yes, I have plans for further CDI work in the future.

CONTACT INFO AND PUBLICATIONS

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Romanian

Person Preparing Report: Dr. Elena Geangu

Date: November 18, 2010

Forms Developed	Status	Available for Distribution	Norms?	Validity Evidence	Manual?
CDI:WG CDI:WS	There are preliminary versions adapted for the Romanian culture.	Limited availability to others, mainly to professionals for the purpose of receiving comments on its applicability.	Norms have not yet been developed as we are in the process of collecting the data	No	No

PLANS FOR FUTURE WORK

Yes, I have plans for further CDI work in the future.

CONTACT INFO AND PUBLICATIONS

We are expecting to publish the results obtained from the first step of the adaptation process by early summer 2011.

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Soon there will also be a description of the instrument and project at:
<http://www.devpsychology.ro/category/proiecte/>

Russian

Person Preparing Report: S. Ceytlin, M. Eliseeva

Date: February 22, 2011

Forms Developed	Status	Available for Distribution	Norms?	Validity Evidence	Manual?
CDI:WG CDI:WS	Final versions	Electronic version	Yes, Electronic version	Comparison with the data we have at our disposal. Our Database on Child Language is represented by audiotapes of spontaneous children's speech, parents' diaries, experimental data, etc.;	No

PLANS FOR FUTURE WORK

It depends on many things. We would like to continue our work but research like this is not supported by our authorities and funds.

Shortform version of CDI must be very useful for parents and speech-therapists.

CONTACT INFO AND PUBLICATIONS

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http://ontolingva.ru/mac_engl.htm

Besides the results of the work have been used in 4 dissertations of our post-graduate students (I.Gridina, A.Bondarenko, J.Puzanova, V.Korolev)

Sasak

Person Preparing Report: Elizabeth Prado, PhD

Date: November 16, 2010

Forms Developed	Status	Available for Distribution	Norms?	Validity Evidence	Manual?
CDI-III CDI:Sentences and Using Language	We have developed a tool designed to assess language development in children age 42 months in Lombok, Indonesia. We developed the tool to evaluate the effect of maternal multiple micronutrient supplementation on children's language development. The interview consists of two sections: (1) 8 items consisting of 2 sentence pairs for assessing grammatical complexity, and (2) 8 yes/no questions concerning semantics, pragmatics, and comprehension. We did not develop a vocabulary checklist, rather, we assessed receptive vocabulary using a locally developed picture vocabulary test. Final Version	It is available by contacting me at elprado@ucdavis.edu.	No, we do not have norms.	Prado, E. L., Hartini, S., Rahmawati, A., Ismayani, E., Hidayati, A., Hikmah, N., et al. (2010). Test selection, adaptation, and evaluation: Three critical steps to assess nutritional influences on child development in developing countries. <i>British Journal of Educational Psychology</i> , 80, 31-53	There is a manual, although it consists of only a few paragraphs explaining how to administer and code the interview. It can be obtained by contacting me at elprado@ucdavis.edu.

PLANS FOR FUTURE WORK

Currently no plans

CONTACT INFO AND PUBLICATIONS

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Prado, E. L., Hartini, S., Rahmawati, A., Ismayani, E., Hidayati, A., Hikmah, N., et al. (2010). Test selection, adaptation, and evaluation: Three critical steps to assess nutritional influences on child development in developing countries. *British Journal of Educational Psychology*, 80, 31-53.

Alcock, K. J., Prado, E. L., Rimba, K., Kalu, R., Newton, C. R. J. C., & Holding, P. (2010, 18-22 July). *Parent report of language development in illiterate families - the CDI in two developing country settings*. Paper presented at the 21st Congress of the International Society for the Study of Behavioral Development, Lusaka, Zambia.

Serbian/Bosnian

Person Preparing Report: Slavica Tutnjevic

Date: November 5, 2010

FORMS DEVELOPED

Forms Developed	Status	Available for Distribution	Norms?	Validity Evidence	Manual?
CDI:WS	I have made a preliminary adaptation that I'm using for my PhD Research Project	No	No	No	No

PLANS FOR FUTURE WORK

My plan is to develop a standardized Serbian/Croatian/Bosnian version of the CDI I, II, and III, with norms for the population of Bosnia and Herzegovina, which would include the three language variations (Serbian, Croatian, and Bosnian languages) and two scripts (Latin and Cyrillic), so that the instrument can be used in all parts of Bosnia and Herzegovina. Additionally, with a colleague at the Institute for Psychological Research in Serbia, the plan was to develop a separate version and norms for the population of Serbia, which uses a slightly different form of Serbian Language (E.G. BREAD – HLJEB/HLEB, MILK – MLIJEKO/MLEKO ETC.).

CONTACT INFO AND PUBLICATIONS

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Darinka Anđelković

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Singapore: English, Malay, Mandarin

Person Preparing Report: Tan Seok Hui

Date: May 5, 2010

FORMS DEVELOPED

Forms Developed	Status	Available for Distribution	Norms?	Validity Evidence	Manual?
CDI:WG CDI:WS	This version is final, but I would consider adding more items following some results of recent data collection if it indicates that we have missed out some words which quite a number of children know at that age (and which aren't in the original MacArthur-Bates CDIs).	Yes, speech language therapists use it for assessment purposes but have agreed not to distribute to other SLTs without permission. Currently three SLTs in different clinics in Singapore restructured (semi-government) hospitals use it to assess their infants. An SLT team in a local special school has also used it to assess vocab in their early intervention programme (children with Downs and GDD aged 5 years and below). We will also be using it in an ongoing longitudinal study.	Yes, there are some data available for the instrument published in a book chapter. Tan, S.H. (2010). Multilingual Infant Vocabulary in Singapore. In M. Cruz-Ferreira (Ed.) Multilingual Norming. Peter Lang.	We did a pilot study on the CDI data and language sample of a small number of children (20 or less) a while ago and found they were correlated to each other although the language sampled word types reached a ceiling (30minute observations). It was difficult to get local families to participate so the data collection was discontinued. The results were presented for a poster presentation at a conference: Tan, S.H., Liu, D., Affandi, H., & Chen, L. (2006) Vocabulary development in bilingual infants in Singapore. Poster presented at International Conference for the Japanese Society for Language Sciences in Tokyo, Japan.	There isn't a manual at the moment. There is a document which cross lists the items across all three languages and against the original MacArthur Bates CDI.

PLANS FOR FUTURE WORK

We may look at shortform versions in the future but are concentrating on the CDI II. We're not currently working on a CDI III at the moment. We have a Tamil version for CDI II, and will be collecting pilot data on it (June 2010 onwards) and will forward that version when we have finalised the items for it. We hope to use the data to examine the predictive validity of both I and II CDIs with respect to later language (preschool) skills.

CONTACT INFO AND PUBLICATIONS

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We have a research blog at our lab: <http://blog.nus.edu.sg/infantlab/about>.

In addition to the book chapter, and the conference poster listed above, we also presented portions of the data from the book chapter (before it was published) at these conferences:

Tan, S. H. (2009). Vocabulary development in multilingual 1- and 2-year-old Singaporean infants. Poster presented at Biennial Meeting for the Society of Research in Child Development on 3 April 2009, in Denver, Colorado, USA.

Tan, S. H., & So, W.-C. C. (2008). Vocabulary development in multilingual 12- to 30-month-old Singaporean children. Paper presented at Conference on Bilingual Acquisition in Early Childhood, at the Chinese University of Hong Kong, Hong Kong.

I have also amended the information as our Tamil version will be finalized this month and will be ready by 1 June 2011

Slovak

Person Preparing Report: Svetlana Kapalková and Daniela Slančová

Date: November 10, 2010

Forms Developed	Status	Available for Distribution	Norms?	Validity Evidence	Manual?
CDI:WG CDI:WS	<p>We have a final version. It has already been published in Slovak language under the title Test komunikačného správania I: Slová a gestá (TEKOS I) [Test of communicative behavior: Words and Gestures I].</p> <p>We have the final version. It has already been published in Slovak language under the title Test komunikačného správania II: Slová a vety (TEKOS II) [Test of communicative behavior: Words and Sentences II].</p>	<p>There are two ways how to get to the TEKOS I AND II:</p> <p>1. the paper version. It has been published as a part of the book <i>Hodnotenie komunikačných schopností detí v ranom veku (s testami a normami)</i> [Assessment of communicative abilities of early-aged children (with tests and norms)].</p> <p>2. on-line version: http://laboratorium.det.skarec.sk/</p>	<p>Yes, there are norms for Slovak-speaking children from 8-30 months. They are available as a part of the book <i>Hodnotenie komunikačných schopností detí v ranom veku (s testami a normami)</i> [Assessment of communicative abilities of early-aged children (with tests and norms)].</p>	<p>Face validity and content validity,</p> <p>Concurrent validity,</p> <p>Predictive validity</p>	<p>The manual <i>Hodnotenie komunikačných schopností detí v ranom veku (s testami a normami)</i> has been published by the Slovak Association of Speech Therapists and can be ordered and bought at the publisher's.</p>

PLANS FOR FUTURE WORK

One of the different activities connected with the potential CDI-III is to find out proper materials for the evaluation of the narrative structures for the children aged 3 -6 years. We have been cooperated with other researchers from different countries. As a very preliminary step, we have made a study on how the parents and the teachers are able to assess their children's narrative skills.

CONTACT INFO AND PUBLICATIONS

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<http://laboratorium.detskarec.sk/> as TEKOS I and TEKOS II

Kapalková, S., Slančová, D., Bónová, I., Kesselová, J., Mikulajová: Hodnotenie komunikačných schopností detí v ranom veku (s testami a normami). Bratislava: Slovenská asociácia logopédov 2010. 110 s. ISBN 978-80-89113-83-5

Kapalková, Svetlana – Slančová, Daniela: Vývin komunikačných schopností dieťaťa v ranom veku z hľadiska dvoch metodologických prístupov. In: Jazyk a kultúra. Prešov: Filozofická Fakulta PU 2010, www.ff.unipo.sk/jak/1_2010/kapalkova_slancova.pdf. s. 1 – 14

Kapalková, Svetlana, Laciková, Hana, Slančová, Daniela, Helbich, Miroslav: Test komunikačného správania TEKOS I: Gestá a slová – nový nástroj na hodnotenie komunikačnej schopnosti detí v ranom veku. In: Psychológia a patopsychológia dieťaťa. r. 45, č. 1, Bratislava: VÚDPaP 2010. s. 46 – 62

Slančová, Daniela – Kapalková, Svetlana: Pragmatické funkcie a spôsoby ich realizácie a reflexie v ranom období vývinu detskej reči. In: Užívaní a prožívaní jazyka. Praha: Karolinum 2010. s. 461 – 466

Kesselová, Jana – Kapalková, Svetlana: Výskum detskej reči – východisko slovenskej verzie testu CDI. In: Kvalitativní přístup a metody ve vědách o člověku. Olomouc: Univerzita Palackého 2009. s. 279 – 288

Spanish (Columbian)

Persons Preparing Report: Maria Fernanda Lara. and Angela Gomez

Date: February 28, 2011

Forms Developed	Status	Available for Distribution	Norms?	Validity Evidence	Manual?
<p>CDI:WG CDI:WS</p>	<p>At present the CDI counts with a Colombian-Spanish adaptation, this version is completed (fully assembly, piloted, tested and normalized) but not final due to the number of participants, which is desired to increase to achieve a more statistical significant sample.</p>	<p>Currently there is not a version available to the public. In the future it is expected that the CDI in the form of a Manual and Inventory will be available to specialized users.</p>	<p>As outcome of the adaptation and normalization process a Report was produced. This report includes a section of Fitted percentile tables for the different Inventory sections, these percentiles were obtained based on the standard procedures and considerations appearing in the various CDI Manuals used as reference (EE.UU, Spanish and Mexican version) and corrected for the Colombian sample.</p> <p>The tables are not yet available to the general public due to the sample size considerations mentioned above, but it is one of the main Research Team goals to generate a fully comprehensive normalization document that may serve as guiding document for the Colombian and international population.</p>	<p>The mentioned Report also includes a complete Statistical and Psychometrical results section, where the main measures are presented. The main validity content of this section is here reproduced.</p> <p>As per the degree in which Inventories constitute an adequate and representative sample of the content being evaluated, the MacArthur Bates inventories have been credited with a high content validity drawn from the extended research process conducting to their formulation. As the Colombian version follows as close as possible the original English version, content validity come from the fact that inventories include the major aspects of communicative developments. Also, experts who reviewed inventories considered pertinent items included evaluating the most relevant features of early Communication. For the Colombian case, the CDI also shares aspects evaluated with the Colombia's government general development instrument: The Development Abbreviated Scale (Heath Ministry), created guided by the observations of a panel of experts on the initial pediatric follow ups, this confirms content validity.</p> <p>Convergent and Concurrent Validity is to be determined for the Colombian standardization of the inventories, obtaining data for convergence between CDI and observation as well as other</p>	<p>Currently there is no Manual for the CDI Spanish-Colombia available.</p>

				<p>standardized measures is a purpose of the Colombian research group.</p> <p>Currently, Predictive validity is under research as children who have been surveyed with CDI will be re-tested consistently to determine to what extent measures associate and if predictive assertions could be made</p> <p>Preliminary report. Investigation summary. Spanish-Colombia normalization of the MacArthur-bates communicative development inventories CDI. p.47</p>	
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PLANS FOR FUTURE WORK

The future work on the inventories is oriented to broaden sample and produce deeper – finer analysis of the obtained information. Also, a complete analysis of vocabulary checklist is desirable for a frequency per category relation being created for the Colombian sample.

The adaptation and normalization of the CDI III would be desirable in order to extend the sample and the comprehension of the language development in Colombian samples.

CONTACT INFO AND PUBLICATIONS

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Lara, M.F., Mesa, C., Gómez, A., Gálvez, D., & Serrat, E. (En prensa) Normativización del CDI Inventario del Desarrollo Comunicativo MacArthur-Bates al Español-Colombia. *Revista Latinoamericana de Psicología*. ISSN 0120-0534.

Lara, M.F, Serrat, E, Gómez, a. Preliminary Report.(2010). Investigation summary. Spanish-colombia normalization of the Macarthur□Bates Communicative Development Inventories. CDI. Unpublished Document.

Gómez, A., Lara, M.F., & Serrat, E. (2010) Normativización al Español Colombia de los Inventarios del Desarrollo Comunicativo CDI: MacArthur-Bates Communicative Development Inventories. Poster presentado en el VI Congreso Internacional de Adquisición del Lenguaje. Barcelona, del 8 al 10 de Septiembre de 2010.

<http://www.docentes.unal.edu.co/mflarad/>

Spanish (Cuban)

Person Preparing Report: Barbara Zurer Pearson

Date: December 28, 2010

Forms Developed	Status	Available for Distribution	Norms?	Validity Evidence	Manual?
CDI:WG	Archival We call our adaptations of the CDIs in Spanish, Infants and Toddlers “archival” because they served a purpose at a moment in time and they have been superseded	No, it was not formally made electronic, and it has been superseded in any event	No. At the time we used the forms (between 1990 and 1993), there was no published CDI in Spanish and no norms. Our papers using the data stated clearly that there were no Spanish norms	In Pearson & Fernandez, 1994, (in the footnote) we report correlations done for the CDIs with the number of types in 50 utterances for the 31 24-month-olds in our study and with the PPVT for the 22 30-month-olds in our study (following Fenson et al., 1991).	No. In the past, I shared a memo with people who inquired, but it is no longer available

PLANS FOR FUTURE WORK

I am pleased to see that the Spanish CDI authors are in the process of getting a short form published (in a journal, I believe). This is not a field we currently work in.

CONTACT INFO AND PUBLICATIONS

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Pearson, B. Z., (1998). Assessing lexical development in bilingual babies and toddlers. *International Journal of Bilingualism*, 2, 347-372 (*Special issue on bilingual acquisition*, A. DeHouwer, Ed.)

Spanish (European)

Person Preparing Report: SUSANA LÓPEZ ORNAT

Date: October 26, 2010

Forms Developed	Status	Available for Distribution	Norms?	Validity Evidence	Manual?
CDI:WG CDI:WS	Final versions	Published 2005 (see Manual below)	Published 2005 (see Manual below)	Published 2005, 2006 and 2007, see recent publications	YES, FROM EDITOR (Madrid, TEA Ediciones; see Manual below)

PLANS FOR FUTURE WORK

SHORT FORM FINISHED 2005. Presented 2005

CONTACT INFO AND PUBLICATIONS

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Note: First publications and presentations (years 2003 and 2004) appeared under name i-LC, used before agreement was reached with the MCDI board. After agreement with board, since 2005, all publications and presentations appear under the name **European Spanish MCDI**

MANUAL:

S.López Ornat, C.Gallego, P.Gallo, A.Karousou, S.Mariscal y M.Martínez (2005) MacArthur: Inventario de desarrollo comunicativo. Manual y Cuadernillos; Madrid, TEA Ediciones. ISBN: 84-7174-820-7

PUBLICATIONS *

S. López Ornat, C. Gallego, P.Gallo, A. Karousou, S.Mariscal & S.Nieva (2003) **i**LC: Un instrumento de medida del desarrollo comunicativo y lingüístico temprano (8-30 meses) basado en las Escalas MacArthur. Boletín de la AELFA, 3, 3-7.

S. López Ornat. & A. Karousou (2004) Las vocalizaciones tempranas (8-30 meses) y su relación con el vocabulario y la gramática. Su medida en el iLC: resultados preliminares. Communication at IV Congreso Internacional sobre la Adquisición de las

lenguas del estado. Univ. Salamanca. In Congress' CD-Rom.

C.Gallego & S.López-Ornat (2005) El desarrollo del vocabulario temprano. Su evaluación con el iLC. En: M^aAngeles Mayor Cinca; Begoña Zubiauz de Pedro & Emiliano Díez-Villoria (Eds) Estudios sobre la adquisición del lenguaje; Aquilafuente, Eds. Universidad de Salamanca, 909-928. ISBN: 84-7800-511-0

S.López Ornat & A.Karousou (2005) Las vocalizaciones tempranas (8-30 meses) y su relación con el vocabulario y la gramática. Su medida en el CDI español: resultados preliminares. In: M^aAngeles Mayor Cinca; Begoña Zubiauz de Pedro & Emiliano Díez-Villoria (Eds) Estudios sobre la adquisición del lenguaje; Aquilafuente, Eds. Universidad de Salamanca, 401-420. ISBN: 84-7800-511-0

S. Mariscal, S & P. Gallo (2005) Cómo evaluar el desarrollo gramatical temprano. In: M^aAngeles Mayor Cinca; Begoña Zubiauz de Pedro & Emiliano Díez-Villoria (Eds) Estudios sobre la adquisición del lenguaje; Aquilafuente, Eds. Universidad de Salamanca. ISBN: 84-7800-511-0

Mariscal, S. & Gallo, P. (2006) La evaluación del desarrollo gramatical temprano en la adaptación española de los Inventarios MacArthur. Estudios de Psicología 27, 153-173

Mariscal, S., López Ornat, S., Gallego, C., Gallo, P., Karousou, A., Martínez, M. (2007) La evaluación del desarrollo comunicativo y lingüístico mediante la versión española de los Inventarios MacArthur-Bates. Psicothema 19, 2, 190-197

S.Mariscal, A.Karousou, M.Martínez, P.Gallo, C.Gallego & S.López Ornat (2007) ¿Es posible evaluar el desarrollo del lenguaje de los bebés?. INFOCOP ONLINE, 6 julio; ISSN: 1886-1385.

S.Mariscal, C.Gallego & S.López Ornat (2007): Relaciones entre los desarrollos léxico y gramatical en la fase inicial de la adquisición del lenguaje (16-30 meses): una comparación interlingüística. En (ed) Díez Itza: Estudios de Desarrollo del Lenguaje y Educación. (I.S.B.N.: 978-84-88828-29-3).

S.Mariscal & S.López Ornat (2007) The (European) Spanish CDI2: a new adaptation of the grammar part. In (Ed) M.Eriksson: Proceedings 1st European Network Meeting on the CDIs. Gävle University Press, 42-50. ISBN: 978-91-974948-8-5.

Spanish (Mexican)

Person Preparing Report: Donna Jackson-Maldonado

Date: October 5, 2010

Forms Developed	Status	Available for Distribution	Norms?	Validity Evidence	Manual?
CDI: WG CDI: WS	Final versions	Yes- For sale by Brookes and in Mexico, Manual Moderno	Yes, Published on the CDI Web	Yes, Published in the manual and in JSLHR 2001	Yes, Brookes Publishing Company and Manual Moderno

PLANS FOR FUTURE WORK

Short Form already is normed and publication has been submitted.

CDI-III is in norming stage. Norms will be available August 2011.

CONTACT INFO AND PUBLICATIONS

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Swedish

Person Preparing Report: Mårten Eriksson

Date: September 30, 2010

Forms Developed	Status	Available for Distribution	Norms?	Validity Evidence	Manual?
CDI: WG CDI: WS CDI-III	Final for CDI: WG and WS Preliminary for CDI-III	Available after request	The norms are available from the manual, see attachment.	<p>The Swedish Early Communicative Development Inventories (SECDI)--w&g (words and gestures; 8-16 months) and w&s (words and sentences; 16-28 months)--is a new instrument to assess communicative and language abilities in Swedish speaking children. Test-retest reliability and content validity of SECDI were examined. The results show that the SECDI covers common words in Swedish children's vocabulary and that its grammar scale (w&s) incorporates items that develop early among many children. Test-retest was analysed over 2 or 3 months, first for 57 and then for 60 children. Test-retest reliability scores are as follows: SECDI--w&g = between 0.70 and 0.90 in most age ranges; and SECDI--w&s = close to or above 0.90 on most measures.</p> <p>From: Berglund, E., & Eriksson, M. (2000). Reliability and content validity of a new instrument for assessment of communicative skills and language abilities in young Swedish children. <i>Logopedics Phonology Vocology</i>, 25, 176-185.</p>	Available after request

PLANS FOR FUTURE WORK

CDI-III under development

CONTACT INFO AND PUBLICATIONS

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On forms and norms in typical and atypical populations:

Berglund, E., & Eriksson, M. (2000). Communicative development in Swedish children 16-28 months old. The Swedish early communicative development inventory - words and sentences. *Scandinavian Journal of Psychology, 41*, p. 133-144.

Berglund, E., Eriksson, M., & Johansson, I. (2001). Parental reports of spoken language skills in children with Down syndrome. *Journal of Speech, Language and Hearing Research, 44*, p. 179-91.

Berglund, E., Eriksson, M. & Westerlund, M. (2005). Communicative skills in relation to gender, birth order, childcare and SES in 18-month-old children. *Scandinavian Journal of Psychology, 46*, 485-491.

Eriksson, M., & Berglund, E. (1999). Swedish early communicative development inventory - words and gestures. *First Language, 19*, no 55, p. 55-90.

Short forms developed for screening:

Eriksson, M. Westerlund, M., & Berglund, E. (2002). A screening version of the Swedish Communicative Development Inventories designed for use with 18-months-old children. *Journal of Speech, Language and Hearing Research, 46*.

Westerlund, M., Eriksson, M., & Berglund, E. (2004). A short-term follow-up of children with poor word production at the age of 18 months. *Acta Paediatrica, 93*, p. 702-706.

Westerlund, M., Berglund, E. & Eriksson, M. (2006). Can severely language delayed 3-year olds be identified at 18 months of age? Evaluation of a screening version of the MacArthur-Bates communicative development inventories. *Journal of Speech, Language and Hearing Research, 49*, p 237-247.

Validation studies:

Berglund, E., & Eriksson, M. (2000). Reliability and content validity of a new instrument for assessment of communicative skills and language abilities in young Swedish children. *Logopedics, Phoniatics Vocology, 25*, p. 176-185.

Eriksson, M. (2001) Narratives validates communicative development inventories. *Applied Psycholinguistics, 22*, p. 45-60.

Comparisons between language communities:

Eriksson, M., Marschik, P.B., Tulviste, T., Almgren, M., Pérez Pereira, M., Wehberg, S., Marjanovič Umek, L., Gayraud, F., Kovacevic, M., Gallego, C. (in press). Differences between girls and boys in emerging language skills: Evidence from 10 language communities. *British Journal of Developmental Psychology*.

Tamil

Person Preparing Report: Nitya Sethuraman

Date: September 30, 2010

Forms Developed	Status	Available for Distribution	Norms?	Validity Evidence	Manual?
CDI: WS	I have a version that I consider extremely preliminary. It is mainly just words and three longest utterances. I'm working on developing something to measure grammatical complexity.	Yes, I have made it available to people who have emailed me directly with requests. I've asked that they share any data they collect with me so that I may continue to improve the form.	No	No	No

PLANS FOR FUTURE WORK

It is in my long-term plans to further develop the Tamil CDI and collect enough data to make it possible to have item-level data, write a manual, etc.

CONTACT INFO AND PUBLICATIONS

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Turkish

Person Preparing Report: Ayhan Aksu-Koç & Aylin Küntay

Date: October 17, 2010

Forms Developed	Status	Available for Distribution	Norms?	Validity Evidence	Manual?
CDI: WG CDI: WS	Final Final	Yes. We have been already distributing pdf files to some researchers.	The norms will be ready by the end of this year.	Those data are in the process of being collected. I expect the results will be available by the end of 2011. 152 Turkish speaking mother-child dyads including 48 infants and 104 toddlers are to be included in this study. All of the children will be healthy, full-term children without any neurological disorder. The children will be approximately equally distributed across the age ranges and across the family socio-economic status. Mothers of children will be contacted by means of snowball sampling and asked to participate in the study. All mothers will be current residents of İstanbul and three other Turkish cities: Adana, Ankara, and Eskişehir. The children will be videorecorded with their primary caregivers for 45 minutes in three different segments, where the researcher provides different sets of toys and a storybook to the dyad. After the videorecording session, the CDI data will be obtained from the primary caregiver.	Not yet

PLANS FOR FUTURE WORK

We are going to consider building a short form soon.

We are part of the narrative group that might be appended to CDI-III

CONTACT INFO AND PUBLICATIONS

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We have only one publication, which is a proceeding paper. The citation is:

Acarlar, F., Aksu-Koç, A., Küntay, A.C., Maviş, İ., Sofu, H., Topbaş, S., Turan, F. (2009). Adapting MB-CDI to Turkish: The first phase. In S. Ay, Ö. Aydın., İ. Ergenç, S. Gökmen, S.

İşsever, and D. Peçenel (Eds.) Essays on Turkish linguistics: Proceedings of the 14th International Conference on Turkish Linguistics, August 6-8, 2008. Harrassowitz Verlag: Wiesbaden, Germany.

Welsh-English Bilingual

Person Preparing Report: Debbie Mills

Date: October 13, 2010

Forms Developed	Status	Available for Distribution	Norms?	Validity Evidence	Manual?
CDI: WG	Preliminary	Not yet	We will be collecting norms - but are currently seeking funding	Validity measures are part of the plan both behavioral and ERP measures	There will be

PLANS FOR FUTURE WORK

Perhaps - just starting now. I do plan a web-based version for helping to collect normative data.

Phase II, developing CDI: WS

CONTACT INFO AND PUBLICATIONS

We are working on developing a URL.

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Yiddish

Person Preparing Report: Isabelle Barriere, PhD

Date: November 13, 2010

Forms Developed	Status	Available for Distribution	Norms?	Validity Evidence	Manual?
CDI:WS	Preliminary	People can contact me and use it for research purposes, not clinical purposes. If they do so they should 1. double check that it is adapted to the culture and regional variations of the speakers they are investigating and b) include a reference to a book chapter that described the development of the adaptation and pilot data.	Data have been collected on 120 children between 14 and 38 months. However norms are not available yet	I have been granted a small PSC-CUNY grant that is enabling us to start checking the validity of the measure. Audio-recordings of speech samples of 40 children between 18 and 36 months have been made and CDI data have been collected on the same children. The audio-recordings are being transcribed. Once this process is completed, applications for funding will be made to funding agencies that grant more important budgets	There is no manual yet but the plan is to produce one in 2011-2012 after 100 more questionnaires are collected and if the validity study reveals positive correlations between the adaptation and the speech samples

PLANS FOR FUTURE WORK

As explained above this is the last time this long version is being administered: a shorter version will be developed on the basis of the items that are always and never selected.

CONTACT INFO AND PUBLICATIONS

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http://www.brooklyn.cuny.edu/pub/Faculty_Details5.jsp?faculty=795

Publication

Barrière, I. (2010) The vitality of Yiddish among Hasidic infants and toddlers in a low SES preschool in Brooklyn. W. Moskovich, (ed.) *Yiddish - a Jewish National Language at 100*. Proceedings of Czernowitz Yiddish Language 2008 International Centenary Conference, Jerusalem-Kyiv, series "Jews and Slavs", Vol. 22: 170 - 196.

**Obtaining Authorization for Adaptations of the
MacArthur-Bates Communicative Development Inventories**

Revised March, 2008

The MacArthur-Bates Communicative Development Inventory (CDI) Board is gratified by the research and clinical usefulness of the CDI instruments, and welcomes their adaptation into as many of the world's languages as possible. However, it is important that adaptations of the CDI adhere to shared standards and procedures that make them genuinely comparable to the original and thus insure some degree of coherence and consistency across versions. Furthermore, given the extensive work required to develop an adequate adaptation, it is important that appropriate academic and other resources be available for the project, and that duplication be avoided. For these reasons, the CDI Board authorizes specific adaptations of the CDI, using the following guidelines:

- A.** The research team should have appropriate competence and resources for generating a successful adaptation, including norming and validation. We encourage collaboration among researchers in these projects. When the resources and plans are appropriate, a full, exclusive authorization (Level I) will be granted. In other cases, an individual researcher or group of researchers may wish to develop an adaptation for a specific research project, such as a dissertation, without plans for full norming and validation. In these cases, a limited, nonexclusive authorization (Level II) will be granted, which does not include the right to use the term “MacArthur” or “CDI” in the title, or to distribute the form to others. This does not preclude a later individual or research group from proposing a full adaptation

- B.** The proposed adaptation should contain the major communicative structure categories that are in the original. Specifically, adaptations of the CDI:Words & Gestures should assess receptive and expressive vocabulary, and gestures. Adaptations of the CDI:Words & Sentences should assess expressive vocabulary and grammar, the latter in a format appropriate to the structure of the language. Adaptation of other components of the original CDIs is optional, as is the addition of new components not in the English CDIs. New components should be consistent with the general CDI approach, which is parent-report, primarily in a recognition format.

- C.** CDI adaptations covering a closely related language or an additional dialect may be authorized when they provide unique appropriateness beyond previously authorized versions. For example, we have authorized adaptations for Mandarin and Cantonese versions of Chinese; for German and Austrian German; and for several of the closely related languages of Spain, i.e., European and Mexican Spanish, Galician, and Catalan. Each is a separate and unique project. Authors submitting a request for authorization to develop instruments for a language or dialect close to one for which there is an existing, authorized adaptation should include information about the differences which they believe justify the proposed new forms. Minor differences in pronunciation or vocabulary items can generally be handled by writing in the variations on existing forms.

Both parent report and vocabulary checklists have long histories antedating the development of the CDI, and nothing here precludes the development of qualitatively different instruments along other lines. Those instruments, however, should not be characterized as MacArthur or MacArthur-Bates CDIs. Investigators unsure whether their work might infringe on the copyright of the CDIs are invited to address their questions to the CDI Advisory Board. Investigators interested in developing an authorized adaptation of the CDI should follow these steps:

- 1.** Describe the proposed project, addressing the guidelines listed above, and submit this proposal to the MacArthur-Bates CDI Board. Philip Dale (dalep@unm.edu) is the contact person for these requests. The request should include
 - a statement of the nature of the proposed adaptation, including which forms will be adapted and the plan for the adaptation, plans for norming and validation (if any), and in the case of languages closely related to those with existing authorization, an explanation of the need for a new adaptation
 - names and vitas for the principal authors of the adaptation
 - an approximate timetable

The CDI Board will provide written authorization of approval, and would be happy to maintain contact during the development period, if the research team finds consultation useful.

- 2.** When the adaptation is complete, a copy should be sent to the MacArthur-Bates CDI Board (again via Philip Dale) for final approval. Only with this final approval, provided in writing, is use of the term “MacArthur-Bates CDI” or equivalents permitted. Approved adaptations will be listed on the CDI website (<http://www.sci.sdsu.edu/cdi/>) with links to the instrument and to the adaptation team. Note that there is no requirement that the term “MacArthur-Bates CDI” be used in the title of adaptations; it is entirely optional. However, if it is not used in the title, a footnote or other prominent note should be included on the form acknowledging that this is an authorized adaptation of the MacArthur-Bates CDI.

- 3.** Authors of approved versions who wish to explore commercial publication of their MacArthur-titled instruments must obtain explicit, written permission from the CDI Board, holders of the CDI copyright. This permission will normally be granted automatically, with no charge, for all languages other than English or Spanish, if the previous steps have been followed. All authorizations for publication by the CDI Board are for specific adaptations whose development has been previously authorized, and have no implications for other adaptations. For adaptations into other dialects of English or Spanish, our copyright and contractual arrangements with Brookes Publishing entail a negotiated agreement with Brookes as well as with the CDI Board.

Some Suggestions for the Adaptation of the MacArthur-Bates Communicative Development Inventories to Additional Languages¹

Philip S. Dale, Larry Fenson, and Donna Thal
November 3, 1993

The validity and efficiency of the MacArthur Communicative Development Inventories as a measure of language development between 8 and 30 months (Fenson, Dale, Reznick, Thal, Bates, Hartung, Pethick & Reilly, 1993) have led several research groups to develop similar measures for other languages. Versions of the CDIs have been developed and normative data have been collected for Italian (Caselli & Casadio, 1993) and Spanish (Jackson-Maldonado, Thal, Marchman, Bates, & Guitierrez-Clellen, in press). Adaptations have also been developed and preliminary data collected in Japanese (Ogura, Yamashita, Murase, & Dale, 1993) and in American Sign Language (Reilly, Provine, & Bellugi, 1993). Versions are currently being developed in Hebrew, Chinese, German, Swedish, British English, and several other languages.

These adaptations are motivated by both research and clinical needs. From a research perspective, cross-linguistic research has provided much fruitful data for formulating and evaluating theories of language development (Slobin, 1985; 1992). The extent to which the early phases of language development, in particular, remain similar or diverge in languages of differing structure provides crucial evidence for the existence and nature of basic "operating principles" of language development. Yet cross-linguistic research, like research on the acquisition of English, has been generally limited to the study of very small samples. A comparison of two or three children acquiring one language, with two or three children acquiring a different language, has only limited interpretability in the absence of information about variability among children acquiring those languages. An apparently large contrast between the two groups may simply reflect sampling fluctuation in the two populations; alternatively, a genuine difference may be obscured by sampling variation in the opposite direction. Information is needed on the nature, time course, and stability of individual differences in the acquisition of each language. This basic science understanding of variation is also essential for the diagnosis and remediation of language disorders. Investigation of individual differences necessarily requires large samples of children; parent report is ideally suited for this purpose.

This brief list of suggestions is directed to investigators preparing to develop a communicative development inventory based on parental report.

1. Each new inventory is necessarily an adaptation, not a translation, of the CDIs. Languages and cultures differ substantially in both the form and content of their communication systems, and there is every reason to believe that even in the earliest phases of development differences will be noticeable in gestural communication, vocabulary, and grammar. For example, Ogura et al. (1993) included bowing as an early-emerging gesture, while Jackson-Maldonado (in press) include "tortellitas" (little tortillas), a variant of pattycake used in Mexico. In the domain of vocabulary, it is obvious that there can be major differences in clothing, food, and household items.

2. Grammatical features are likely to be even more different from one language to another. This raises problems for measuring vocabulary, as well as grammar. Consider, for example, the problem that Italian researchers face in constructing a list of nouns and verbs. Which inflected form of the noun or verb should they use on the word checklist? Caselli and Casadio followed the convention of using singular nouns and verbs in the infinitive form. Languages with a rich inflectional morphology system are especially difficult. The English list includes different entries for "am," "are," and "be." In a language like Italian, listing all forms separately in this way would enormously lengthen the list. In the Sentence Complexity section, assessing grammatical development, the selection of which aspects of grammar to include, and how to capture early syntax and morphology must be done on the basis of knowledge of the acquisition of each language. We believe the forced-choice, sentence pair format developed for the English-language CDI will prove valuable in most languages.

3. The English-language CDIs have many subparts. The core components of the CDI: Words and Gestures are a 396 word vocabulary checklist (comprehension and production), and a 63 item list of gestures. The core components of the CDI: Words and Sentences are a 680 word vocabulary checklist (production only) and a set of 37 sentence pairs to assess sentence complexity. These have the greatest validity as general measures of language development for English, and similar scales are likely to be the most important in other languages. It is not essential to adapt the other, more minor portions of the CDIs.

4. It is very important to keep in mind from the outset the need for multiple iterations in the development process. The CDIs represent the culmination of nearly 20 years of research, beginning with interviews. Even as questionnaires, they have evolved through more than half a dozen forms in the past decade. In each cycle of revision, previously collected data have been used to modify, add, or omit selected items in order to improve clarity, internal consistency, and validity. It is best to develop the first version or two on a small scale, concentrating on obtaining the information necessary to revise the inventory before proceeding to a larger-scale norming study.

5. In the process of iteration, it is most effective to begin with a more open-ended format, in which parents are invited to list additional words and gestures, and perhaps even sentences. In this way, a more inclusive list of potential items appropriate for the widest possible range of young children in the linguistic community of interest will be generated. At each step, information from a modest number of parents across the full age range can be used to modify the inventory on the basis of item frequency, clarity of questions, etc. Information from language samples is also highly valuable for identifying possible additions. Later in the development process it is important to shift to the checklist format for the collection of norms, in order to remove the variance that would otherwise be introduced by parental reporting style and recall abilities.

6. Items with relatively low frequency are appropriate for the instrument (along with higher frequency items), in order to provide an assessment across the full range of age and language ability. In the development of the English-language forms, only items with an overall frequency of less than 5% were dropped on the basis of frequency alone.

7. The developers of the English-language MacArthur Communicative Development Inventories had the advantage of being part of a sizable collaborative team, with an adequate amount of time (many years), and access to substantial samples of children. This will often not be the case in other linguistic communities. We believe the highest priority should be given to going through the revision cycle at least twice with a modest number of parents (perhaps 25-30) before attempting to obtain norms from a larger number of children. For the norming process itself, we recommend a minimum of 40 children at each age for which norms are being obtained. (It may not be appropriate or necessary at first to obtain norms at each month of age, depending on the intended use of the instrument.)

8. Finally, even though numerous studies have documented the validity of the CDIs for English, it is highly desirable to conduct validity studies of the newly adapted forms, comparing parental CDI information with information from structured tests and/or language samples.

¹ Portions of the material in this paper have been adapted from: Fenson, Larry, Dale, Philip S., Bates, Elizabeth, Reznick, J. Steven, & Thal, Donna. (1994). Variability in early communicative development. Monographs of the Society for Research in Child Development, 59, Serial No. 242.