Exhibit 2

SUDHALTER REPORT

EXPERT REPORT

Dr. Vicki Sudhalter, Ph.D.

D.R., et al. v. Michigan Dept. of Ed., et al.

Background and Experience

I am a licensed psychologist. I have extensive training and clinical experience in the neuropsychological assessment of children with a variety of cognitive and behavioral deficits, including many with serious psychological disorders and other impairments.

I have a Ph.D. in experimental psychology from New York University, New York, New York. I supervised the Clinical Psycholinguistics Laboratory at the New York State Institute for Basic Research in Developmental Disabilities. In that capacity I diagnosed children with pervasive developmental disorders, developmental disabilities, expressive and receptive language disorders and attention deficit/hyperactivity disorder. I retired from that position in February 2016 but continue to consult with the New York State Institute for Basic Research in Developmental Disabilities, help administer the Fragile X Clinic, train professionals and plan research.

I have published peer-reviewed work in developmental psychology, developmental disabilities and cognitive psychology. I have been a recipient and reviewer of National Institutes of Health research grants. I am an author of the diagnostic instrument, "Pervasive Developmental Disorders Behavior Inventory" that was published in 2005 by Psychological Assessment Resources, Inc. My *curriculum vitae*, which contains a list of my publications, is attached to this report as Exhibit A.

I have evaluated over 500 children with lead poisoning. I have delivered professional presentations on the effects of childhood lead poisoning and the interventions that lead-poisoned children need.

Before becoming a psychologist, I was a teacher in the Massachusetts and New York public schools.

I have been qualified as an expert witness in psychology and neuropsychology on numerous occasions by courts in the State of New York. A list of all cases during the last 4 years in which I testified as an expert at trial or by deposition is attached as Exhibit B.

My opinions expressed in this report are stated to a reasonable degree of certainty in the fields of psychology and neuropsychology.

Sources Relied Upon

I have reviewed records and personally evaluated four of the plaintiff children in this case.

I evaluated students DR, CW, DK, and JB in September 2017, using neuropsychological and/or behavioral evaluations. The evaluations included interviews with parents.

Records reviewed include:

Complaint in D.R., et al. v. Michigan Dept. of Ed., et al.
Summary from Lara L. MacQuarrie, Ph.D., dated 9/12/16

D.R.
M-Step Parent Report 2015
IEP, dated 3/30/15
Complaint Decision, dated 3/6/17
Documents received by MPAS from Flint Community Schools, sent 5/24/16

C.W.
Lead Blood—Details, 10/24/13
Lead Blood—Details, 9/5/14
Lead Blood—Details, 1/15/16
Lead Blood—Details, 9/2/16

D.K.
IEP Amendment, dated 2/23/16
Functional Behavioral Assessment, dated 2/23/16
IEP, dated 8/28/17

J.B.
Letter from Genesee Health System, Children's Autism Center, dated 11/25/14
IEP, dated 10/24/16
Multidisciplinary Evaluation Team Report—Autism Spectrum Disorder, meeting date 10/24/16
Multidisciplinary Evaluation Team Report—Specific Learning Disability, meeting date 10/24/16
Multidisciplinary Evaluation Team Report—Speech and Language, meeting date 10/24/16
Flint Community Schools Occupational Therapy Report, evaluation date 9/27/16

Conclusions

I have examined four children and my individual reports for each of them are attached as follows:

Exhibit C: Neuropsychological and Behavioral Evaluation Report for DR
Exhibit D: Neuropsychological and Behavioral Evaluation Report for CW
Exhibit E: Behavioral Evaluation Report for DK
Exhibit F: Behavioral Evaluation Report for JB

As set forth in detail in my attached reports, none of the children I examined have received the appropriate services from the Flint School System that are necessary to acquire skills and behaviors which would lead to a more productive and satisfying adulthood. Each child was exposed to water contaminated by lead and each child's continuing inability to progress and acquire age appropriate behaviors is consistent with lead poisoning. The failure of Flint schools to provide adequate services to these children will result in irreparable harm to them if not promptly corrected.

Vicki Sudhalter, Ph.D.

Vicki Sudhalter, Ph.D.
Licensed Psychologist

SUDHALTER REPORT

Exhibit A

Curriculum Vitae

Vicki Sudhalter
135 Ocean Parkway
Apt 1U
Brooklyn, New York 11218

Education:

Ph.D.,Experimental Psychology, New York University, 1985
M.A., Linguistics, New York University, 1972
B.A., English with a minor in secondary education, New York University, 1970

Professional Memberships

1992-present Licensure as Psychologist, New York State No.011629-1
2002-present Member of Scientific Advisory Board, National Fragile X Foundation
2005-present Standing Reviewer on the NIH/Fogarty Grant Review Committee
2007-present Member of the Fragile X Clinical and Research Consortium

Awards

2000 Award for Excellence in Service, New York Foundation for Autistic Children
2006 Award for Clinical Excellence, National Fragile X Foundation
2014 Lifetime Achievement Award, National Fragile X Foundation
2014 ICare4Autism Achievement Award for outstanding autism research, ICare 4 Autism Foundation

Professional History:

Nov.1985-February 2016 (retired) Research psycholinguist, Head, Clinical Psycholinguistics Laboratory, Institute for Basic Research in Developmental Disabilities

Spring 1988-Adjunct Assistant Professor, Graduate Center, CUNY Intellectual and Cognitive Development

Sept.1986-Fall 1990--Research psycholinguist working with Martin D.S. Braine on a five-year NICHD Grant in child language acquisition

Fall 1986--Adjunct professor, Barnard College, Introduction to Psychology

Fall 1985--Adjunct professor, Barnard College, Introduction to Psychology

Spring 1985--Adjunct professor, NYU, Cognitive Psychology

Spring 1984--Teaching assistant in an undergraduate cognitive psychology course

Spring 1983--Teaching of reading in a MCAT Preparatory Summer class sponsored by Educational Testing Service of Princeton, New Jersey and Aspira of New York

Fall 1982--Teaching Assistant in an undergraduate Introduction to Psychology class

Spring 1982--Teaching assistant in an undergraduate Philosophy of Psychology class

1974-1981--Teacher of English in Clara Barton High School for the Medical Professions, Brooklyn, New York

1972-1974--Teacher of English as a Second Language, Cambridge Public School Cambridge, Massachusetts

Publications

Sudhalter V & Braine MDS. (1985). How does comprehension of the passive develop?---A comparison of actional and experiential verbs. *Journal of Child Language*, *12*, 455-470.

Wolf-Schein E, Sudhalter V, et al. (1987). Speech-language and the Fragile X Syndrome: Initial Findings. *ASHA*, Vol.*29*, No. 7 pp. 35-38.

Cohen IL, Fisch GS, Sudhalter V, Wolf-Schein EG, Hanson D, Hagerman R, Jenkins EC & Brown WT. (1988). Social gaze, social avoidance and repetitive behavior in fragile X males: A controlled study. *American Journal of Mental Retardation*, *22*, 436-446.

Cohen IL, Vietze PM, Sudhalter V, Jenkins EC & Brown WT. (1989). Parent-Child Dyadic Gaze Patterns in Fragile X Males and in Non-Fragile X Males with Autistic Disorder. *Journal of Child Psychology and Psychiatry*, *30*, 845-856

Cohen IL, Brown WT, Jenkins EC, Krawczun MS, French JH, Raguthu S, Wolf-Schein EG, Sudhalter V & Wisniewski K. (1989). Fragile X Syndrome in Females with autism. *American Journal of Medical Genetics*, *34*, 302-303.

Sudhalter V, Cohen IL, Silverman W & Wolf-Schein EG. (1990).Conversational analyses of males with Fragile X, Down Syndrome and autism: A comparison of the emergence of deviant language. *American Journal of Mental Retardation*, *94*, 431-442.

Braine MDS, Brody R, Brooks PJ, Sudhalter V, Ross JA, Catalano L & Fisch SM. (1990). Exploring language acquisition in children through the use of a miniature artificial language. *Journal of Memory and Language*, *29*,591-610.

Sudhalter V, Scarborough H & Cohen IL (1991). The syntactic delay and pragmatic deviance of the language of Fragile X Males. *American Journal of Medical Genetics*, *38*, 493-497

Cohen IL, Vietze PM, Sudhalter V, Jenkins EC & Brown WT.(1991) Effects of age and communication level on eye contact in Fragile X Males and Non-Fragile X Autistic Males. *American Journal of Medical Genetics*, *38*,498-502.

Cohen IL, Sudhalter V, Pfadt A, Jenkins EC, Brown WT & Vietze PM (1991) Why are autism and the Fragile X Syndrome Associated? Conceptual and Methodological Issues.

American Journal of Human Genetics, *48*, 195-202.

Scarborough HS, Rescorla L, Tager-Flusberg H, Fowler AE & Sudhalter V.(1991). Index of Productive Syntax: Application to the study of language disorder. *Applied Psycholinguistics*, *12*, 23-45.

Sudhalter V, Maranion M & Brooks P. (1992). Expressive semantic deficit in the productive language of males with fragile X syndrome. *American Journal of Medical Genetics*, *43*, 65-71.

Reis AL, Cianchetti C, Cohen IL, DeVries B, Hagerman R, Hinton V, Froster U, Lachiewicz A, Mazzocco M, Sobesky W, Sudhalter V. (1992). Brief Screening Questionnaire for Determining Affected State in Fragile X Syndrome: A Consensus Recommendation. *American Journal Of Medical Genetics*, *43* 61-64.

Pfadt A, Cohen IL, Sudhalter V, Romanczyk RG & Wheeler DJ. (1992). Applying Statistical Process Control to Clinical Data: An Illustration. *Journal of Applied Behavior Analysis*, *25*, 551-560.

Brooks PJ, Braine MDS, Catalano L, Brody R & Sudhalter V. (1993). Acquisition of gender-like subclasses in an artificial language:The contribution of phonological markers to learning. *Journal of Memory and Language*, *32*, 76-95.

Cohen IL, Sudhalter V, Landon-Jimenez D & Keogh M. (1993). A Neural Network Approach to the Classification of Autism. *Journal of Autism and Developmental Disorder*, *23*, 443-466.

Belser RC & Sudhalter V. (1995). Arousal difficulties in males with fragile X syndrome: A preliminary report. *Developmental Brain Dysfunction*, *8*, 270-279.

Cohen IL, Nolin SL, Sudhalter V, Ding X-H, Dobkin CS and Brown WT. (1996). Mosaicism for the FMR1 gene influences adaptive skills development in fragile X affected males. *American Journal of Medical Genetics*, *64*, 365.

Dobkin CS, Nolin SL, Cohen IL, Sudhalter V, Bialer M, Ding X-H, Jenkins EC, Zhong N, and Brown WT. (1996). Tissue differences in fragile X mosaics: Mosaicism in blood cells may differ greatly from skin. *Journal of Medical Genetics*, *64*, 296-301.

Brown WT, Wisniewski KE, Sudhalter V, Keogh M, Tsiouris J, Miezejeski C & Schaefer GB. (1998). Identical Twins Discordant for Sotos Syndrome. *American Journal of Medical Genetics*. *79*, 329-333.

Sudhalter, V. (2000). Book Review: R. Paul (Ed.) Exploring the Speech-Language Connection: *American Journal on Mental Retardation, 105,* 61-63.

Belser, R. C., & Sudhalter, V. (2001). Conversational Characteristics of Children with Fragile X Syndrome: Disfluent Speech. American Journal on Mental Retardation, 106, 28-38.

Sudhalter, V., & Belser, R. C. (2001). Conversational Characteristics of Children with Fragile X Syndrome: Tangential Language. American Journal on Mental Retardation, 106, 389-400.

Jenkins, E. C., Li, S. -Y., Yao, X. -L., Lanter, S., Sudhalter, V., Belser, R., Dink, X. -H., Houck, G. E., Glicksman, A., Dobkin, C. S., Nolin, S. L., Brown, W. T. (2001). Detecting mosaic FMR-1 (fragile X) mutations: Southern blotting versus monoclonal antibody analysis. American Journal of Human Genetics, 69 (suppl), abstract #1452.

Cohen IL, Schmidt-Lackner S, Romanczyk R, & Sudhalter V. (2003). The PDD behavior inventory: A rating scale for assessing response to intervention in children with PDD. Journal of Autism and Developmental Disorders. 33, 31-45.

Cornish, KM, Turk J, Wilding J, Sudhalter V, Munir F, Kooy F, Hagerman R. (2004) Deconstructing the attention deficit in Fragile X Syndrome: a developmental neuropsychological approach. Journal of Child Psychology and Psychiatry,45, 1042-1053.

Cornish KM, Sudhalter V, & Turk J. Attention and speech in fragile X syndrome (2004). Attention and speech in fragile X syndrome (invited review). *Mental Retardation and Developmental Disabilities Research Reviews*,10, 11-16.

Mazzocco, M. M. M., Thompson, L., Sudhalter, V., Belser, R. C., Lesniak-Karpiak, K., & Ross, J. L. (2006). Language use in females with fragile X syndrome during brief initial social interactions. *Journal of Developmental and Behavioral Pediatrics, 27,* 319-328.

Book Chapters

Pennington B, Schreiner R, Sudhalter V. (1991) The Neuropsychology of the Fragile X Syndrome. In R.J. Hagerman and A. Cronister (Eds.) *The Fragile X Syndrome.* Baltimore, MD: Johns Hopkins Press, pp 173-201.

Sudhalter V. (1992). The language of males with Fragile X Syndrome. In R.J. Hamgerna and P McKenzie (Eds.) *1992 International Fragile X Conference Proceedings.* Dillon, CO: Spectra Press, pp 107-120.

Sudhalter V. (2001). Problem Behaviors in Individuals with Developmental Disabilities. In O. Devinsky and L.E. Westbrook (Eds.) *Epilepsy and Developmental Disabilities.* MA: Butterworh/Heineman . pp 165-174.

Sudhalter V & Belser RC. (2004). Atypical language production in children with Fragile X Syndrome. In D.H. Hughes (ed.) *Educating children with Fragile S Syndrome: A Mutliprofessional Handbook*. London: Rutledge.

Sudhalter, V. (2007). The Individualized Education Program: Navigating the IEP. In: M. M. M. Mazzocco & J. L. Ross (Eds.), *Neurogenetic Developmental Disorders: Variation of Manifestation in Childhood.* Cambridge, MA: MIT Press.

Cornish, K. M., Levitas, A, & Sudhalter, V. (2007). Fragile X Syndrome: The Journey from Genes to Behavior. In: M. M. M. Mazzocco & J. L. Ross (Eds.), *Neurogenetic Developmental Developmental Disorders: Variation of Manifestation in Childhood.* Cambridge, MA: MIT Press

Assessment Instruments

Cohen, Ira.L. and Vicki Sudhalter (2005). PDDBI. Psychological Assessment Resources. Lutz. Florida**.**

Professional Presentations

Sudhalter, V. What Schools and Parents Can Do to Mitigate the Impact of Lead Poisoning. Princeton University. November 18, 2016.

Sudhalter,V & Belser R. Hyperarousal in teens and adults: Understanding problem Behaviors identifying triggers and developing strategies. 12th International Fragile X Conference, July 24, 2011.

Sudhalter, V. Maximizing the educational experience for Children with Fragile X Syndrome by Developing an appropriate Individualized Education Plan. 12th International Fragile X Conference. July 23, 2011.

Sudhalter, V. Neuropsychological Effects of Lead Poisoning : the Importance of Educational Remediation. Childhood Lead Poisoning Conference; Tappan Hill, 9/11/09; Montefiore Hospital, 10/23/09

Sudhalter, V. Language: Development, causes of delay and possible areas of research for children with Dancing Eye Syndrome. The Fourth Workshop on Dancing Eye Syndrome Clinical and Basic Science. Abingdon, England, February 1, 2008.

Sudhalter, V. & Belser, R. C. Educational Interventions. Conference on the Educational Implications of Childhood Lead Poisoning. New Britain, CN, November 28, 2007.

Sudhalter, V. & Belser, R. C. Fragile X Syndrome: Arousal Issues Throughout the Lifespan. Invited Presentation. Belfast, Northern Ireland, October 27, 2007.

Sudhalter, V. & Belser, R. C. Fragile X Syndrome: Arousal Issues Throughout the Lifespan. Invited Presentation. Birmingham, England, October 20, 2007.

Sudhalter, V. Educational Interventions. The 14th Annual New York State Childhood Lead Poisoning Prevention Conference. Purchase, NY, October 5, 2007

Belser, R. C., Sudhalter, V., Gardner, J. M., & Karmel, B. Z. (2007). The relationship between fetal growth restriction and performance on a childhood version of the Wisconsin Card Sorting Test at five years of age. The 40th Annual Gatlinburg Conference on Research and Theory in Intellectual and Developmental Disabilities. Annapolis, MD, March 7, 2007.

Sudhalter, V., Belser, R. C., Gardner, J. M., & Karmel, B. Z. (2007). The relationship between between prematurity and concept formation at five years of age. The 40th Annual Gatlinburg Conference on Research and Theory in Intellectual and Developmental Disabilities. Annapolis, MD, March 7, 2007.

Sudhalter, V., & Belser, R. C., & Yankowitz, H. L. Maximizing the educational experience for children with Fragile X Syndrome. The 10th International Fragile Conference, Atlanta, GA, July 21, 2006

Sudhalter, V., & Belser, R. C. The role of arousal regulatory deficits in the verbal and nonverbal behavior problems of individuals with Fragile X Syndrome. The 10th International Fragile Conference, Atlanta, GA, July 20, 2006.

Sudhalter, V. (2006). Early Diagnosis and Treatment of Autism. Invited lecture delivered at the Hue Medical Center, Hue, Viet Nam, June 27, 2006.

Sudhalter, V., & Belser, R. C. (2006). Arousal Modulation and Attention Deficits affect Speech Fluency in Children with and without Perinatal Brain Damage. International Conference on Infant Studies, Japanese Society of Baby Science, Kyoto, Japan, June 25, 2006.

Sudhalter, V. The role of hyperarrousal and inhibitory control deficits in the speech and language of individuals with fragile X. The 9th International Fragile Conference. Washington, DC. June 24, 2004,

Sudhalter, V. & Belser, R. C. A comparison of individuals with Fragile X syndrome and Autistic Disorder. The 9th International Fragile Conference, Washington, DC., June 25, 2004.

Gardner, J. M., Sudhalter, V., & Karmel, B. K. Using a Peek-a-Boo game to assess autoregulation in high risk 4-month-olds. The 38th Annual Gatlinburg Conference on Research and Theory in Intellectual and Developmental Disabilities. Annapolis, MD.

March 19, 2005

Sudhalter V., Lidsky T & Schneider J. Naming deficits in children who have been exposed to lead paint. 37th Annual Gatlinburg Conference on Research and Theory in Intellectual and Developmental Disabilities. San Diego, CA. March 2004

Sudhalter V, Belser RC, Gardner JM, & Karmel BZ. Executive Function Deficits and Narrative Errors in Perinatally Brain Injured Children. 36th Annual Gatlinburg Conference on Research and Theory in Intellectual and Developmental Disabilities. Annapolis, MD. March 21, 2003.

Sudhalter, V., Belser, R. C., Geva, R., Gardner, J. M., & Karmel, B. Z. (2002). Inhibitory Control Deficits and Repetitive Speech in Perinatally Brain Injured Children. 35th Annual Gatlinburg Conference on Research and Theory in Intellectual and Developmental Disabilities. San Diego, CA. March 15, 2002.

Belser, R.C., Sudhalter, V., Gardner, J. M., & Karmel, B. Z. (2002). Neonatal CNS Pathology and Narrative Language Skill in School-Age Children. 35th Annual Gatlinburg Conference on Research and Theory in Intellectual and Developmental Disabilities. San Diego, CA. March 15, 2002.

Sudhalter, V., Belser, R. C., Gardner, J. M. & Karmel, B. Z. Atypical Language and Neonatal CNS pathology in School-Age Children. Xth European Conference on Developmental Psychology. Upsalla, Sweden. August 2001.

Belser, R. C. & Sudhalter, V. Dysfluent speech produced by males with Fragile X Syndrome. Xth European Conference on Developmental Psychology. Upsalla, Sweden. August, 2001.

Sudhalter, V. & Belser, R. C. (2001). The role of arousal in verbal and non-verbal behaviors in Fragile X syndrome. YAI/National Institute for People with Disabilities 22nd annual International Conference on MR/DD. New York, NY. May 3, 2001..

Sudhalter, V., Belser, R. C., Gardner, J. M., & Karmel, B. Z. Atypical language and neonatal CNS pathology in school-age children. 34th Annual Gatlinburg Conference on Research and Theory in Intellectual and Developmental Disabilities. Charleston, NC. March 5, 2001.

Sudhalter, V., & Belser, R. C. Disfluent Speech produced by Males with Fragile X Syndrome. 33rd Annual Gatlinburg Conference in MR/DD. March 2000.

Belser, R. C., Sudhalter, V., & Gardner, J. M. Neonatal Arousal Modulated Attention and Linguistic Outcome in At-Risk Children. 33rd Annual Gatlinburg Conference in MR/DD. March 2000.

Jenkins, E., Li, S.-Y., Yao, X.-L., Dibg, X., Dobkin, C. S., Glicksman, A., Houck, Jr. G. E., Nolin, S. L., Belser, R., Sudhalter, V., & Brown, W. T. Concordance among indicators of full and mosaic FMR-1 mutations in blood and skin specimines from males, using southern blot and protein analyses. 9th International Workshop on Fragile X Syndrome and X Linkd Mental Retardation. Strasbourg, France, August, 1999.

Sudhalter, V. Educating parents in the IEP process for chldren with autism. ARC of New Jersey. May 21, 1999.

Sudhalter, V. Behavioral and Linguistic aspects of Fragile X syndrome. Fragile X Society of the United Kingdom, Glasgow, Scotland. March 20, 1999.

Sudhalter, V. Repetitive Language produced by males with Fragile X Syndrome. 31st Annual Gatlinburg Conference on Research and Theory in Mental Retardation and Developmental Disabilities. March 12-14, 1998.

Belser, RC & Sudhalter, V. Conversational Language Errors of At-Risk Children. 31st Annual Gatlinburg Conference on Research and Theory in Mental Retardation and Developmental Disabilities. March 12-14, 1998.

Sudhalter, V. The role of Fast Mapping and Emergent Symbolic Methodology in the Language Programs of Children with Autistic Disorder. NYSABA Conference. September 1997.

Sudhalter, V, Belser, RC and Maranion,M. Tangential Language in Fragile X Syndrome. The International Conference on Mental Retardation : Genes, Brain and behavior. July 10-13, 1997.

Sudhalter, V. The Language of Males with Fragile X Syndrome. International Fragile X Conference, Portland, Oregon, August 1996.

Sudhalter, V & Belser, R.C. Similarities and Differences between males with Autism and Fragile X Syndrome. International Fragile X Conference, Portland Oregon August 1996.

Sudhalter V. The emergence of tangential language in Fragile X Syndrome. 29th Annual Gatlinburg Conference in MR/DD. March 1996.

Sudhalter V. Aspectes especifics del llenguatge en les Sindromes Fragil X i Trastorns per deficit d'Atencio amn hiper activitat. Jornades d'Atencio Precoc. Barcelona, Spain. December 1, 1995.

Sudhalter V. Trastorn cognitius i llenguate. Comunicacio i llenguatge. V. Jornades d'Atencio Precoc. Barcelona, Spain. November 30, 1995.

Sudhalter V. Language and communication. Fragile X Syndrome: Advances and Innovations. Department of Mental Health Sciences, St. George's Hospital Medical School, London England. June 15-16, 1995.

Sudhalter V. Language in Fragile X. Second Northeast Fragile X Conference for parents and professionals. Tarrytown, New York. November 1994.

Braden M & Sudhalter V. Why does my child do the things he does and how can I help him? Fourth International Fragile X Conference. Albuquerque, New Mexico. June 8-12, 1994.

Sudhalter V & Maranion M. Conversational Analyses of Males with Fra(X) and Non-Delayed 4-year old Children. 27th Annual Gatlinburg Conference on research and theory in mental retardation and development disabilities. March 22-25, 1994.

Belser RC, Sudhalter V & Maranion M. Psychophysiological arousal in males with Fragile X Syndrome. 27th Annual Gatlinburg Conference on research and theory in mental retardation and development disabilities. March 22-25, 1994.

Sudhalter V. An Invited Address on the Language System of Males with the Fragile X Syndrome. First Northwest Conference on the Fragile X Syndrome. October 1993.

Sudhalter V. An Integrated model for the language system of males with Fragile X Syndrome. 26th Annual Gatlinburg Conference on research and theory in mental retardation and development disabilities. March 17-20, 1993.

Maranion M & Sudhalter, V. Measures of Social Anxiety in males with Fragile X Syndrome. 26th Annual Gatlinburg Conference on research and theory in mental retardation and development disabilities. March 17-20, 1993.

Cohen IL, Sudhalter V, Keogh M, Landon-Jimenez D. A Neural Network Approach to the classification of Autism. 26th Annual Gatlinburg Conference on research and theory in mental retardation and development disabilities. March 17-20, 1993.

Belser RC, Sudhalter V & Maranion M. The Effect of eye contact on arousal and language in a male with Fragile X Syndrome. 26th Annual Gatlinburg Conference on research and theory in mental retardation and development disabilities. March 17-20, 1993.

Sudhalter V. Language Deficits in Males with the Fragile X Syndrome. Third International Fragile X Conference. Snowmass, Colorado, June 15-19, 1992.

Sudhalter V & Maranion M. Semantic competence in males with Fragile X Syndrome. Poster Presentation. 25th Annual Gatlinburg Conference. March 1992.

Sudhalter Vicki. Semantic Deficits of Males with the Fragile X Syndrome. X-Linked Mental Retardation 5. Strasbourg France. Aug 11-16, 1991.

Sudhalter V, Brooks PJ, Maranion M. Semantic Abilities of Males with the Fragile X Syndrome. Poster Presentation. 24th Annual Gatlinburg Conference May 1-4, 1991.

Brooks PJ, Braine MDS, Brody RE, Catalano L, Sudhalter V and Utakis S. Acquisition of Gender-like noun subcalsess in an artificial language:The contribution of phonological markers to learning. Eastern Psychological Association. April 11-April 14, 1991.

Sudhalter V. The language characteristics of a male with autism and mental retardation. American Psychological Association Annual Meeting, Boston, Massachusetts, August, 1990.

Sudhalter V. and Cohen, ILC. The relationship between perseverative language and eye contact. Fourth International Workshop on the Fragile X Syndrome and X-linked Mental Retardation. July 4-8, 1989.

Sudhalter V. Unique language and cognitive characteristics of Fragile X Boys. Invited address. The 1989 International Fragile X Conference. April 5-8, 1989

Sudhalter V. New directions for speech and language therapy for Fragile X Males. Invited address. The 1989 International Fragile X Conference. April 5-8, 1989.

Sudhalter V. Conversational analyses of Fragile X and Down Syndrome Males:A comparison of the emergence of deviant repetitive language. IASSMD, Dublin Ireland. August, 1988.

Sudhalter V. Language characteristics of Fragile X patients with possible implications for treatment. Invited presentation, First Annual Conference on the Fragile X Syndrome. Denver, Col., Dec. 3-4, 1987

Sudhalter V. The speech and language of Fragile X, autism and Down Syndrome. Invited presentation. First Annual Conference on the Fragile X Syndrome. Denver, Col., Dec. 3-4, 1987.

Sudhalter V and Wolf-Schein E. Language characteristics of a severely developmentally delayed population. First International Symposium on Specific speech and language disorders in children. March 29-April 3, 1987.

Sudhalter V. A comparison of the comprehension and production of the actional and experiential passive in 4 and 5 year olds. New York Child Language Group. New York, May 1984.

GRANTS: Completed

Title of Grant: Development of Arousal and Attention Regulation: Executive Function
Description of Project: To follow up children who had participated in Gardner and Karmel's study of neurobehavioral development of at-risk infants. Specifically, to relate school-age impairments of executive function skills to neonatally observed deficits in the autoregulation of attention and arousal.
Submitted to: NIH [as subproject III of a Program Project by J. Gardner]
Application Number: 1-P01-HD047281-01A1
Principal Investigator: Vicki Sudhalter
Co-Principal Investigator: Richard Belser
Disposition: Funded for five years [7/01/2005 – 6/30/2010]

SUDHALTER REPORT

Exhibit B

Trials from 2013-present

TRIALS and Depositions

Name	**Approximate Date**
James Lameek	October/November 2013
Skiboky Stora	December 2014
Connor Michaels-Nolan	March 2015
James Griffin-Frankel	December 2015
Alyssa Byrd	December 2015
Deng Ater	December 2015
Genesis Espinosa	January 2017
Angel Martinez	February 2017
Noah Smith	August 2017
Sayidah Adams	September 2017

SUDHALTER REPORT

Exhibit C

NEUROPSYCHOLOGICAL and BEHAVIORAL EVALUATION REPORT

Patient: D R
Date of Birth: 7/15/2004
Dates of Evaluation: 09/19/2017
Age: 13 years, 3 months
Test Site: Flint, Michigan

The purpose of this evaluation was to determine the basic motor, cognitive and behavioral performance resources of D R, and their impact on his educability and ability to execute activities of daily living.

D is currently classified as Other Health Impaired. However, his mother, Ms. D R did procure outside documentation from medical doctors, stating that D met the diagnostic criteria for ADHD, Aspergers Syndrome and Impulse Disorder. His pediatrician, Dr. Ramesh Chheda had diagnosed D with Aspergers and ADHD and prescribed Metadate and Venlafaxine. In 2016, the mother requested a functional behavioral analysis of his behavior. As she stated in her letter to the principal of the STEM Academy " He [D] is struggling academically and behaviorally. I am requesting that a functional behavior assessment be conducted as soon as possible so that appropriate behavior support plan can be developed." She stated that her son was struggling academically and behaviorally and as a result had missed too much school due to behavioral issues.

An FBA-BIP was completed on DR on 6/9/16 and described difficulty with peer interaction in an "inappropriate and unaggressive manner. " This behavior occurred 3-5 times per week and could last from 1-3 hours. The behavior was thought to be caused by instructional lessons and /or transitional periods. The maladaptive behavior would start in the classroom and then be carried over into unstructured times. Several strategies were proposed to ameliorate this behavior, which included social skills instruction, token system, conferences and self-monitoring. It is not clear, at this time, how consistently these services are being provided and how effective the services have been.

Present Evaluation

D presented as a well dressed adolescent who was polite and friendly, and appeared oriented to time and place. A good rapport was established with the examiner, and his mother stated that his behavior during the evaluation was typical for him.

Intelligence Assessment

The *Wide Range Intelligence Test (WRIT)* was administered and D attained a Full Scale IQ of 66 (1st percentile) which is in the intellectually deficient range, a Verbal Comprehension Composite Score of 72 (3rd percentile), in the borderline range, and a Visual Score of 70 (2nd percentile), in the borderline range.

Table 1. WRIT Composite Score Summary

Scale	Composite Score	Percentile
Verbal	**72**	**3**
Visual	**70**	**3**
General	**66**	**1**

Table 2. WRIT Subtest Summary

Verbal Subtests	Standard Score	Percentile
Verbal Analogies	**61**	**< 1st**
Vocabulary	**88**	**21**

Visual Subtests	Standard Score	Percentile
Matrices	**74**	**4**
Diamonds	**75**	**5**

Neuropsychological Assessment

A. Language

D was administered 4 tests which assessed his language competency, the Controlled Oral Word Association and the Visual Naming tests from the Multilingual Aphasia Examination, the Comprehension of Instructions test from the NEPSY II and the Vocabulary test from the WRIT.

D's verbal fluency was assessed using the Controlled Oral Word Association Test from the Multilingual Aphasia Examination (MAE), and he achieved a score in the borderline range (*Controlled One Word Association Test* - 4th percentile). D's naming ability was assessed using the Visual Naming subtest from the MAE, and his performance fell within the low average range (*Visual Naming* - 24th percentile).

D was administered the Comprehension of Instructions subtest from the NEPSY-II. This test requires one to perform specific tasks according to verbal instructions, thus assessing comprehension of spoken language. D's performance on the Comprehension of Instructions test was in the low average range (*Comprehension of Instructions* – 16th percentile).

D's ability to define words was assessed using the Vocabulary subtest from the WRIT, and indicated that his knowledge of word meanings was in the low average range (*Vocabulary* - 21st percentile).

These results indicate that D is exhibiting relative strength (please see below) in the area of language. This strength has been noted in school reports.

B. Sensory-Motor Functioning

D was administered two assessments to evaluate his sensory-motor functioning: the Rey Osterrieth Complex Figure Test, and the Arrows test from the NEPSY II.

D's visuospatial constructional ability was assessed using the Rey Osterrieth Complex Figure Test, which requires one to copy a complicated geometric design. D's ability to reproduce this complex design was within the intellectually deficient range (*Osterrieth: Copy* - ≤ 1st percentile).

D's visuospatial processing was also assessed using the Arrows subtest from the NEPSY-II, which requires one to look at an array of arrows arranged around a target and to indicate which arrows point to the center of the target. D's performance on this test was in the low average range (*Arrows* - 9th percentile).

These results indicate that D is displaying severe deficits in his visuospatial constructional ability which has been corroborated by his teachers in the IEP written 1/22/16 " his writing is characterized by poorly formed letters, unusually large spacing between words and the absence of capitalization and punctuation rules. "

C. Learning and Memory

Storage of verbal, auditory and visual information is mediated in different ways and, to some extent, by different parts of the brain. Accordingly, to test memory functioning it is necessary to use different tests that are sensitive to specific components of verbal and non-verbal memory, and which may reflect the functioning of different brain systems. The Narrative Memory tests from the NEPSY II were used to assess memory for narration. The recall trials of the Rey Osterrieth Complex Figure Test and Recognition Trial were used to assess visuospatial memory and recognition.

D was administered the Narrative Memory subtest from the NEPSY II. His immediate memory for narrative material was within the intellectually deficient range (*Narrative Memory: Free Recall* - 2nd percentile). His Free and Cued Memory for narrative material was within the intellectually deficient range (*Narrative Memory: Free and Cued Recall* - < 1st percentile).

Visuospatial memory was also assessed by examining the recall and recognition trials of the Rey Osterrieth Complex Figure Test. D's immediate free recall for visuospatial material was in the intellectually deficient range (*Osterrieth: Immediate Free Recall* - < 1st percentile). His delayed free recall for visuospatial material fell within the intellectually deficient range (*Osterrieth:*

Delayed Free Recall - < 1st percentile), and his recognition for visuospatial material fell within the low average range (*Osterrieth: Recognition Memory* - 16th percentile).

These results indicate that D displays severe deficits in his ability to recall narration and visuospatial material. These deficits were compounded by the fact that D could not control his attention.

D. Executive Functioning

Executive functions of the brain include higher level cognitive processes that allow adaptive thought to be used to solve novel problems and to plan adaptive and goal directed behavior. Among the more salient processes subsumed under the rubric of executive functioning are planning, concept formation, and cognitive flexibility.

The Mazes subtest from the WISC-III was used to assess D's planning ability and impulse control. In order to complete the Mazes test, D had to successfully indicate the route an individual would take to exit a maze without turning into any blind alleys, and his performance on the Mazes task was within the intellectually deficient range (*Mazes* - < 1st percentile). What was interesting about D's performance was that it was characterized by false starts and finding himself in blind alleys. It was as if he simply could not plan or inhibit; he seemed to move the pencil without thinking.

The Verbal Analogies subtest of the WRIT requires one to supply an appropriate word in an orally presented analogy, thereby demonstrating competency in verbal concept formation. D's verbal concept formation skills were shown to be in the intellectually deficient range (*Verbal Analogies* - < 1st percentile).

D's abilities to easily change from one format to another (set shifting), to inhibit a prepotent response (inhibitory control), and to efficiently scan a visual field, were assessed through his performance on the Comprehensive Trail-Making Test (CTMT). In order to complete the CTMT, one simply has to connect numbers, words and numbers, or numbers and letters. Competency in each of these areas is measured by the time required to perform the various tasks. D's performance on the CTMT was in the borderline range (*CTMT*- 3rd percentile), which reflects his difficulty changing sets, controlling his impulses, and efficiently scanning the visual field.

These results indicate that D is displaying deficits in impulse control, planning, verbal concept formation and visual scanning.

Vineland -3 Comprehensive Interview Form

The Vineland Adaptive Behavior Scales - third edition (VABS-III) is a comprehensive questionnaire that provides measures of adaptive behavior within four competency domains: Communication, Daily Living Skills, Socialization and Motor Skills. The results of this assessment, as completed by D's mother, are presented in Table 3.

Table 3. VABS-III Results

Domain	Subdomain	v-Scale Score	Age Equivalent
Communication	Receptive	9	3 years 8 mos
	Expressive	1	3 years 4 mos
	Written	9	7 years 3 mos
Standard Score: Communication: 52 +/- 5			
Daily Living Skills	Personal	9	4 years 8 mos
	Domestic	16	16 years
	Community	10	22+
Standard Score : Daily Living Skills: 81 +/- 5			
Socialization	Interpersonal Relationships	7	2 years 10 mos
	Play & Leisure	6	3 years 2 mos
	Coping	7	< 2 years
Standard Score :Socialization: 54 +/- 5			
Motor Skills	Gross		5 years
	Fine		3 years 10 mos
No Standard Score at this age			

D's Adaptive Behavior Composite score is 63 +/- 3. This summarizes D's overall level of adaptive functioning, and is within the intellectually deficient range. Domain scores that are at least ten points above or below the median composite score are considered to represent personal strengths and weakness, respectively. In this case, D can be seen to exhibit delays in all areas of adaptive functioning.

It is of note to highlight some of D's behaviors. For instance, D does not understand sarcasm, cannot listen to a story for fifteen minutes (and according to his performance on the neuropsychological examination can not even sustain 5 minutes). He still has difficulty with pronoun usage, and has difficulty understanding another person's point of view so cannot tell a story or clarify information so another understands what he is saying.

As stated throughout his IEP's (though it is difficult to determine how this was addressed), D cannot interpret visually presented information. He demonstrates great difficulty writing reports and papers (something that becomes increasingly important in the upper grades).

D's personal hygiene will keep him apart from his peers. He has had bowel movement accidents, cannot completely cleanse himself and apparently does not care whether he is dirty, wet, muddy or smelly. It is hard to understand why this has not been addressed in school.

D is very interested in food, in fact will eat anything, whether cooked or not and will hoard food. He has become rather proficient in the preparation and cooking of food.

Mrs. R stated that D does not know how to make friends but wishes to make friends. He would give his money away to someone if that person said he would be a friend to D. Unfortunately at this time D has no friends. He cannot start conversations with others or understand the subtle (and even not so subtle) societal cues, thus appears socially inept to others (not to mention that his personal hygiene may be offensive).

D does exhibit eating problems and can appear irritable and moody. He has temper tantrums, disobeys, lies (when it comes to food), will break rules under peer pressure and will zone out (demonstrated while being tested).

CHILDHOOD AUTISM RATING SCALE Second Edition (CARS2-HF)

The CARS is an nationally recognized and accepted standardized assessment for the diagnosis of Autism Spectrum Disorder. The CARS categorizes observed behavior and answers the question, does this behavior characterize an individual who would be diagnosed with Autism Spectrum Disorder. The CARS2-HF (high functioning version) was used with D R. According to observed behavior and behavior that was endorsed by his mother, D R meets the criteria for having severe symptoms of Autism Spectrum Disorder.

Summary

D R meets the diagnostic criteria for Autism Spectrum Disorder. He has not developed appropriate social skills. These deficits in socialization have affected D's language development and his ability to acquire age appropriate behavior and have lead to his social isolation. Though he wants to have friends, he has no idea how to make and keep them. In addition, D's unaddressed cognitive, attentional and impulsivity control deficits have lead to his failure in school. D is presently obsessed with food and little else. All of these unaddressed deficits will lead to an unproductive,

isolated adulthood.

Neuropsychological and Neurobehavioral testing has demonstrated that D, currently is performing in the intellectually deficient range for many skills. His IQ, though in the past has been in the average range, currently is in the intellectually deficient range. This can be explained by the fact that D had been administered many Wechsler exams over many years and undoubtedly became rather conversant in taking these exams. When confronted with a new type of intelligence test, D did not know how to perform. D also demonstrated severe deficits in memory, visuospatial constructional ability, attentional control and executive functions. The only area where he demonstrated some proficiency was language.

D's behaviors (which lead to a diagnosis of Autism Spectrum Disorder) have not been recognized by his school, though school personnel have been given documentation attesting to his diagnosis. The Flint School System apparently disallowed the diagnoses brought in by D's mother from outside experts though did not perform an Autism Evaluation of D, using nationally recognized assessment tools. And as a result, D has not received appropriate schooling to help him acquire the behaviors which would lead to a more productive and satisfying adulthood.

D should be receiving 3-4 weekly occupational therapy sessions which would help him with his handwriting, visual processing and sensory processing. D has to learn to recognize when he needs to go to the bathroom so that he does not soil himself. If this cannot be taught (due to sensory processing deficits) D should be put on a toiletting schedule.

He should be receiving twice weekly socialization classes so he can learn the language and the societal cues necessary to understand his world and how to make friends. He also has to learn what are good and bad friendships, how to recognize when he is being duped and taken advantage of. He needs to learn the rules and regulations of his society.

His executive function deficits (so common among individuals with Autism Spectrum Disorder) should have been recognized and he should have been given strategies on how to control his attention and his impulses. Mrs. R asked for a behavioral functional analysis, recognizing all of D's deficits and also recognizing the fact that if these deficits were not addressed, D would fail.

He should be in a classroom of no more than 15 students with 1 teacher and 1 teacher's aide. His attention and impulsivity need to be monitored and he needs to be encouraged to think. D's work should have been modified throughout his school years, so as to help him think and develop the skills necessary to become a productive adults. To my knowledge this has not been done in the Flint community schools.

D was also in Flint and drank the water that was contaminated by lead. His continuing inability to progress and acquire age appropriate behaviors is consistent with lead poisoning. The deficits known to be caused by lead have not been addressed in D, either. These deficits include, among many others, inattention, the inability to control impulses and cognitive deficits across many domains.

The fact that D has not received the appropriate schooling will lead to his inability to gain adult employment, the lack of a social life, and perhaps even incarceration. D exhibits maladaptive behaviors (such as temper tantrums, and willful disobedience) that can lead to problems with the law. He has been shown to have impulse control deficits. D also is easily persuaded by others; and perhaps in his desire to please others could easily be convinced to do something that would lead to incarceration.

I certify that I personally evaluated D R, employing age-appropriate instruments and procedures as well as informed clinical opinion. I further certify that the findings contained in this report accurately represent his level of functioning at the time of my assessment. I hold this opinion and all others in this report with a reasonable degree of psychological and neuropsychological certainty.

Vicki Sudhalter, Ph.D.
Licensed Psychologist

SUDHALTER REPORT

Exhibit D

NEUROPSYCHOLOGICAL and BEHAVIORAL EVALUATION REPORT

Patient: C W
Date of Birth: 8/30/2012
Date of Evaluation: 920/2017
Age: 5 years, 0 months
Test Site: Flint, Michigan

The purpose of this evaluation was to determine the basic motor, cognitive and behavioral performance resources of C W and their impact on his educability and ability to execute activities of daily living.

History

C was a resident of Flint Michigan during the time there was lead in the drinking water. He was one of the children whose blood lead levels were tested.

Table 1. Blood-Lead Levels

Date	µg/dl
10/24/13	2.4
09/05/14	4.8
01/15/16	2.1
09/02/16	2.1

This demonstrates that C was exposed to lead as young as 14 months of age.

Present Evaluation

C presented as a well dressed child who was polite and friendly, and appeared well oriented to time and place. A good rapport was established with the examiner, and his mother stated that his behavior during the evaluation was typical for him. Accordingly, the present evaluation should be taken as a valid reflection of C's cognitive and neuropsychological functioning.

Intelligence Assessment

The Wechsler Preschool and Primary Scale of Intelligence-Fourth Edition (WPPSI-IV) was administered to C. He obtained a Verbal Comprehension Scale score of 75 (5th percentile), which is in the borderline range; a Visual Spatial score of 80 (9th percentile), in the low average range; a Fluid Reasoning score of 91 (27th percentile), in the average range; a Working Memory score of 87 (19th percentile), in the low average range; and a Processing Speed score of 79 (8th

percentile), in the borderline range. These composite scores were combined to yield a Full-Scale IQ of 77 (6th percentile), in the borderline range.

Table 2. WPPSI-IV Composite Score Summary

Scale	Composite Score	Percentile
Verbal Comprehension	75	5
Visual Spatial	80	9
Fluid Reasoning	91	27
Working Memory	87	19
Processing Speed	79	8
Full Scale IQ	77	6

Table 3. WPPSI-IV Subtest Score Summary

Verbal Comprehension	Scaled Score	Percentile
Information	6	9
Similarities	4	2

Visual Spatial	Scaled Score	Percentile
Block Design	7	16
Object Assembly	6	9

Fluid Reasoning	Scaled Score	Percentile
Matrix Reasoning	8	25
Picture Concepts	9	37

Working Memory	Scaled Score	Percentile
Picture Memory	10	50

Zoo Locations	6	9

Processing Speed	**Scaled Score**	**Percentile**
Bug Search	5	5
Cancellation	8	25

Neuropsychological Assessment

A. Language

C's language was assessed using five subtests from the WPPSI-IV: Receptive Vocabulary, Expressive Naming, Information, Similarities and Vocabulary, as well as the Comprehension of Instructions subtest from the NEPSY-II.

In order to perform the Receptive Vocabulary subtest, C had to choose a picture from a set of four that represents an orally presented word. C's performance on this test was in the borderline range (*Receptive Vocabulary* - 5th percentile). In order to perform the Expressive Naming subtest, he had to label a presented picture. C's performance on this test was in the low average range (*Picture Naming* - 9th percentile). The Information subtest presented C with questions that he had to process and then answer. His performance on this test was in the low average range (*Information* - 9th percentile). In order to perform the Similarities subtest, C had to describe how two words were alike or similar. His performance on this test was in the intellectually deficient range (*Similarities* - 2nd percentile). The Vocabulary subtest required C to define words, and his performance on this test was in the average range (*Vocabulary* - 25th percentile).

The Comprehension of Instructions subtest from the NEPSY-II requires one to perform specific tasks according to verbal instructions, thus assessing his comprehension of spoken language. C's performance on the Comprehension of Instructions test was in the low average range (*Comprehension of Instructions* – 9th percentile).

These results indicate that C is displaying deficits in most areas of language, with pronounced deficits in verbal concept formation. He displays relative strength in his ability to define vocabulary words.

B. Sensory-Motor Functioning

C's sensory-motor skills were assessed using the design copying and arrows subtests of the NEPSY-II, the object assembly and block design subtests from the WPPSI-IV .

The Design Copying Subtest from the NEPSY-II requires one to draw increasingly more complex designs, and is used to assess visuospatial constructional ability. C's performance on

this test was in the intellectually deficient range (*Design Copying* - < 1st percentile). C's visuospatial processing was assessed using the Arrows subtest from the NEPSY-II, which requires one to look at an array of arrows arranged around a target and to indicate which arrows point to the center of the target. C's perfomance on this test was in the borderline range (*Arrows* - 5th percentile).

The Object Assembly task from the WPPSI-IV was used to assess C's ability to put together puzzle pieces, and his performance on this test was in the low average range *(Object Assembly* - 9th percentile). The Block Design subtest from the WPPSI-IV was used to assess C's ability to manipulate blocks to recreate a presented design, and his performance on this test was in the low average range (*Block Design* - 16th percentile).

These results indicate that C is demonstrating severe deficits in his ability to use a pencil. He displays deficits in his ability to use puzzle pieces and to a somewhat lesser extent in his ability to use blocks to create a design. He also displays severe deficits in visual processing.

C. Learning & Memory

Storage of verbal, auditory and visual information is mediated in different ways and, to some extent, by different parts of the brain. Accordingly, to test memory functioning it is necessary to use different tests that tap into different components of verbal and non-verbal memory, and which may reflect the functioning of different brain systems. C's memory for verbal material processing was assessed using the Narrative Memory and Sentence Repetition subtests from the NEPSY-II and the Zoo Locations and Picture Memory subtests from the WPPSI-IV.

C was administered the Narrative Memory subtest from the NEPSY-II to assess his free, cued and recognition memory for narration. C's performance on this test indicated that his free recall for narration was in the high average range *(Narrative Memory: Free Recall* - 84th percentile), his cued recall for narration was in the average range (*Narrative Memory: Cued Recall* -63rd percentile) and his recognition memory for narration was within the high average range (*Narrative Memory: Recognition* - > 75th percentile).

The Sentence Repetition subtest from the NEPSY II was used to assess C's verbal memory, and his performance on this test indicated that his verbal memory skills were in the average range *(Sentence Repetition* - 37th percentile).

The Zoo Locations and Picture Memory subtests from the WPPSI-IV were used to assess C's memory for visuospatial material and pictures. His performance on these tests indicated visuospatial memory in the low average range (*Zoo Locations* - 9th percentile), and picture memory in the average range (*Picture Memory* - 50th percentile).

These results indicate that C is demonstrating real strength in the area of memory. His relatively poor performance on Zoo Locations could be attributed to the fact that he had to manipulate small pictures of animals and as seen above, C has fine motor deficits which may have interfered with performance.

D. Attention

C's attention was assessed using the Auditory Attention subtest from the NEPSY-II.

In order to perform the Auditory Attention test, one is first shown a page containing four colored circles (red, yellow, blue and black), and is then read a list of 180 words and told to touch the red circle when he hears the word "Red". He will also hear other color words, but is to respond only to the word "Red". Several scores are derived from this test. C's Total Correct score, which indicates how many times he correctly touched the red circle upon hearing the word "Red" was in the intellectually deficient range (*Total Correct* - 2nd percentile). His Omission Error score, which indicates how many times he did not touch the red circle upon hearing "Red" was in the intellectually deficient -borderline range (*Total Omission Errors* - 2nd -5th percentile).

These results indicate that C is displaying severe deficits in his ability to control his attention.

E. Executive Functioning

Executive functions of the brain include higher level cognitive processes that allow adaptive thought to be used to solve novel problems, and plan goal directed behavior. Among the more salient of theses processes are planning, concept formation, and cognitive flexibility. As a result of C's young age we could only test verbal and nonverbal concept formation, and fluid reasoning.

The Similarities test from the WPPSI-IV assesses verbal concept formation; the Picture Concepts test from the WPPSI-IV assesses nonverbal concept formation and the Matrix Reasoning test from the WPPSI-IV assesses fluid reasoning.

In order to perform the Similarities test, C had to describe how two words were alike or similar, and his performance on this test was in the intellectually deficient range (*Similarities* - 2nd percentile). For the Picture Concept test, C was asked to indicate which two pictures, from a presented array, were alike, similar or shared attributes, and his performance on this test was in the average range (*Picture Concepts* - 37th percentile). In order to perform the Matrix Reasoning test, C was asked to choose from a set of four alternatives the item that best completed the presented matrix and his performance on this test was in the average range (*Matrix Reasoning* - 25th percentile).

These results indicate that C, as noted above, is displaying severe deficits in his verbal concept formation skills.

Vineland -3 Comprehensive Interview Form

The Vineland Adaptive Behavior Scales - third edition (VABS-III) is a comprehensive questionnaire that provides measures of adaptive behavior within four competency domains: Communication, Daily Living Skills, Socialization and Motor Skills. The results of this assessment, as completed by C's mother, are presented in Table 4.

Table 4. VABS-III Results

Domain	Subdomain	v-Scale Score	Age Equivalent
Communication	Receptive	12	3 years 2 mos
	Expressive	16	6 years 9 mos
	Written	13	4 years 4 mos
Standard Score: Communication: 92 +/- 5			
Daily Living Skills	Personal	13	3 years 7 mos
	Domestic	18	7 years 3mos
	Community	12	3 years 6 mos
Standard Score : Daily Living Skills: 93 +/- 5			
Socialization	Interpersonal Relationships	14	4 years 8 mos
	Play & Leisure	14	4 years 6 mos
	Coping	14	3 years 10 mos
Standard Score :Socialization: 94 +/- 5			
Motor Skills	Gross	14	5 years 6 mos
	Fine	9	2 years 9 mos
Standard Score: Motor Skills: 76 +/- 7			

C's Adaptive Behavior Composite score is 89 +/- 3. This summarizes C's overall level of adaptive functioning, which is within the low average range. Domain scores that are at least ten points above or below the median composite score are considered to represent personal strengths and weakness, respectively. In this case, C can be seen to exhibit delays in motor skills.

It is also of note that C is displaying difficulty in his coping skills, fine motor skills, receptive language skills and community skills. The reason for his deficits in coping skills is according to mom, C has temper tantrums, stomps, screams and throw things. His receptive language competency is hampered by his inability to pay attention. His fine motor deficits have been emphasized above and his community skills deficits are a result of his inability to identify money, obey street signals, tell time, know the days of the week and count ten objects.

Summary

C W is displaying a distinctive profile of strengths and weaknesses. He displayed strength in the areas of defining words, most areas of memory (excepting the one that required the manipulation of small objects), nonverbal concept formation and fluid reasoning. However, C exhibited severe to profound deficits in many areas of language, sensory motor functioning and his ability to control attention. This profile of strengths and weaknesses is indicative of pediatric brain injury. Furthermore, such impairments have been described as sequella of early childhood exposure to lead. Lead is a known environmental toxin whose effects on the developing nervous system have been well documented, and often lead to such cognitive and behavioral consequences as language disorders, hyperactivity, attention deficits and mental retardation. Elevated lead levels in young children have also been associated with poor performance on standardized assessments of emotional regulation and orientation-engagement.

It is imperative for C's long term development that his deficits be recognized and that appropriate schooling be put in place. And such deficits can only be recognized through a thorough and comprehensive neuropsychological evaluation.

C should receive 2-3 weekly occupational therapy classes to help him with his fine motor control and visual processing deficits. Explicit goals need to be created so as to monitor C's progress.

C should also receive speech and language therapy to help him acquire age appropriate language skills. C is a very social child and if he perceives that he is not able to make himself understood, he will become frustrated and perhaps stop trying to interact. His inability to control his frustration has already been documented by mom in the fact that he has temper tantrums, screams, stomps and throws things.

C should have a Functional Behavioral Analysis performed to help determine how to best aid him in controlling his attention. C will not be able to learn if he is not able to pay attention.

In the long term, C will require reading assistance. It is well known that children who have visual processing deficits in combination with language delay will have difficulties learning to read.

C was also in Flint and drank the water that was contaminated by lead. His continuing inability to progress and acquire age appropriate behaviors is consistent with lead poisoning. The deficits known to be caused by lead have not been addressed in C, either. These deficits include, among many others, inattention, the inability to control impulses and cognitive deficits across many domains.

If appropriate therapies are not implemented immediately, C W who is presently an easy to please and eager learner, will fail in school.

I certify that I personally evaluated C W, employing age-appropriate instruments and procedures as well as informed clinical opinion. I further certify that the findings contained in this report accurately represent his level of functioning at the time of my assessment. I hold this opinion and all others in this report with a reasonable degree of psychological and neuropsychological certainty.

Vicki Sudhalter, Ph.D.
Licensed Psychologist

SUDHALTER REPORT

Exhibit E

BEHAVIORAL EVALUATION REPORT

Patient: D K
Date of Birth: 07/09/2009
Dates of Evaluation: 09/19/2017
Age: 8 years, 2 months
Test Site: Flint, Michigan

The purpose of this evaluation was to determine the basic motor, cognitive and behavioral performance resources of DK, and their impact on his educability and ability to execute activities of daily living.

DK has been diagnosed with Autism Spectrum Disorder by private experts (Lisa Jensen, Genesee Health Autism Center) and with ADHD (Dr. Kahn, psychologist). However, DK's ASD diagnosis has never been fully appreciated by the Flint School System and this fact has been reflected in the type of education he has received. DK is being provided services under the classification of Speech and Language Impairment not under the diagnosis of ASD.

IEP's have been created for DK. For instance from an IEP amendment dated 2/23/16, it was stated that DK had earned a score in the 2nd percentile (within the intellectually deficient range) in Expression on the Bracken Basic Concept Scale (administered in 2014 when DK was 5). Other language tests had been administered more recently which also attested to D's language deficits . As a result of D's proven profound language deficits, it was deemed sufficient that in order to help DK acquire better language skills, he was to be given 3-6 monthly 15-25 minute speech and language therapy classes. To say this is a vague description of exactly how much language therapy this child was to receive is a gross understatement. In addition the amount of therapy to be provided would be completely inadequate to address his proven needs.

In order to improve DK's socialization deficits he was mandated to receive 2-4 monthly 20-30 minute counseling sessions. Again, realizing (or perhaps not realizing) that DK has ASD, socialization needs to be addressed aggressively. This amount of socialization is simply inadequate.

1n 2016 he was administered the Beery Developmental Test of Visual Motor Integration where he earned scores in the borderline range (VMI - 5th percentile), average range (visual perception - 25th percentile) and intellectually deficient range (motor coordination - < 1st). And again it was deemed sufficient in order to correct these profound deficits, to supply 4 occupational therapy sessions of 20-30 minutes per MONTH.

In 2016 an FBA was initiated because DK displayed crying and noncompliant behavior at times during the school day. These behavioral outbursts could occur 1-4 times per day and the behavior could last up to a half hour. It was noted that this behavior occurred at transition times or when D is asked to do something he did not want to do. What was notable was that there was no recognition that the child is autistic.

D also suffers from severe allergies and there did not appear to be any emergency procedures written in the IEP as to what to do if D is inadvertently exposed to a substance that could cause an allergic reaction. This is a crucial missing piece as D does not have the language to explain what is going on; thus, strict precautions and procedures need to be put in place to safeguard his health and well being. D's allergies were not recognized as potentially playing a role in his behavior (along with a lack of recognition of his ASD).

In a recent IEP, DK's ASD has been recognized inasmuch as it was written that consultative services from an ASD consult would be provided to teacher and parent twice monthly, once by phone and once on site, each consultation lasting less than a half hour. It was also suggested that D should receive 2-4 monthly occupational therapy classes lasting 15-30 minutes; therapy administered by a social worker which is to occur 2-6 times per month and last 15-30 minutes; and lastly DK is to receive 2-4 monthly speech and language classes lasting 15-30 minutes. Again this vague description of the amount of therapy to be provided and the sheer infrequency of therapy is insufficient to meet DK's needs. There is no mention of DK being placed in a classroom which has been specially designed for children meeting the diagnostic criteria for ASD.

Present Evaluation

DK was observed and his mother was administered a behavioral evaluation which consisted of the Vineland Adaptive Behavior Scales - 3 (VABS-3) and the Childhood Autism Rating Scale (CARS2-ST) , second edition. This evaluation lasted approximately 3 hours.

Vineland Adaptive Behavior Scales -3 Comprehensive Interview Form

The Vineland Adaptive Behavior Scales - third edition (VABS-III) is a comprehensive questionnaire that provides measures of adaptive behavior within four competency domains: Communication, Daily Living Skills, Socialization and Motor Skills. The results of this assessment, as completed by D's mother, are presented in Table 1.

Table 1. VABS-III Results

Domain	Subdomain	v-Scale Score	Age Equivalent
Communication	Receptive	9	2 years 4 mos
	Expressive	8	2 years 4 mos
	Written	9	5 years 8 mos
Standard Score : Communication: 68 +/- 4			
Daily Living Skills	Personal	12	4 years 9 mos
	Domestic	13	6 years 7 mos

	Community	12	6 years 1 mo
Standard Score : Daily Living Skills: 84 +/- 4			
Socialization	Interpersonal Relationships	8	1 year 11 mos
	Play & Leisure	6	1 year 3 mos
	Coping	10	2 years 10 mos
Standard Score :Socialization: 62 +/- 4			
Motor Skills	Gross	8	1 year 11 mos
	Fine	5	1 year 11 mos
No v scores at this age range 53 +/- 5			

D's Adaptive Behavior Composite score is 71 +/- 2. This summarizes D's overall level of adaptive functioning, and is within the borderline range. Domain scores that are at least ten points above or below the median composite score are considered to represent personal strengths and weakness, respectively. In this case, D can be seen to exhibit delays in all areas of adaptive functioning.

It is of note to highlight some of D's behaviors. For instance, D only sometimes answers "who" questions, he cannot pay attention for 15 minutes or respond to "when "questions. He does not use pronouns correctly, nor use adjectives or produce simple sentences to report what he is doing. D does not use "and" in sentences or ask questions with "who." His mother reports that D's handwriting is extremely poor.

D does not wipe or blow his own nose, cannot connect zippers, does not use a knife or button small buttons (attesting to his fine motor deficits).

D does not understand about personal privacy and therefore does not respect it. He also does not understand or comply with community rules such as not littering or respecting other's property.

D does not approach others or maintain culturally appropriate eye contact. And his mother reports that D has no friends. D does not play appropriately and does not seek others out for interactions or play. He has great difficulty with transitions which has been highlighted in the FBA's that have been written for him.

D cannot run without falling and has not acquired the principal of how to pedal. He displays major fine motor deficits.

In terms of the display of maladaptive behavior, D bangs his head, scratches himself, is echolalic

and perseverative. He will shake, thrash his body and throw himself on the floor. He will get fixated on items or certain particular subjects (e.g., cars, weather, maps).

CHILDHOOD AUTISM RATING SCALE Second Edition (CARS2-ST)

The CARS is a nationally recognized and accepted standardized assessment for the diagnosis of Autism Spectrum Disorder. The CARS categorizes observed behavior and answers the question, does this behavior characterize an individual who would be diagnosed with Autism Spectrum Disorder. The CARS2-ST (standard version) was used with D K. According to observed behavior and behavior that was endorsed by his mother, D K meets the criteria for having severe symptoms of Autism Spectrum Disorder.

Summary

D K meets the diagnostic criteria for Autism Spectrum Disorder and has met the accepted national definition of ASD for the length of time he has been in the Flint School System. D's behaviors (which lead to a diagnosis of Autism Spectrum Disorder) have not been recognized by his school, though school personnel have been given documentation attesting to his diagnosis. Only in 2017 was there a mention of D having ASD on an IEP. However, what was deemed appropriate to address D's ASD behaviors was an ASD consult which was to be provided twice per month for 10-15 minutes. One consult was to be provided by phone and one was apparently to be provided on site. This was deemed sufficient. It clearly is not.

D has not received appropriate schooling to help him acquire the behaviors which would lead to a more productive and satisfying adulthood. In fact, not recognizing D's ASD and not preparing an appropriate IEP with the amount of therapy which would actually address some of D's outstanding deficits, has lead to the emergence of his maladaptive behaviors.

In order to provide D with the education he needs to have any hope of developing any age appropriate skills, he should be receiving 3-4 **weekly** occupational therapy sessions which would help him with his handwriting, visual processing and sensory processing. Each session should last 30-40 minutes.

He should be receiving three **weekly** socialization classes so he can learn the language and the societal cues necessary to understand his world and how to make friends. D has to learn how to play with others and respect the space of others. Each session should last 40-50 minutes.

D should be receiving three-four weekly speech and language classes where he can a) learn language and how to use it and b) learn the language to be used in social situations. Each session should last 30-40 minutes.

An adequate FBA should be created for D which takes into account his ASD diagnosis and which actually deals with the environmental contingencies that contribute to the emergence of maladaptive behaviors in D. Appropriate modifications to the environment should be considered

and appropriate techniques for attentional and behavioral control implemented, before considering medicine. Obviously, D's inappropriate classroom environment and perhaps the inexperience of the teachers in teaching children with ASD have been the cause of many of D's outbursts.

An emergency plan needs to be created in case D inadvertently becomes exposed to an element he is allergic to and measures need to be taken to safeguard his health and well being.

D should not be in a mainstream or regular education classroom. He should be in a classroom of no more than 8 students with 1 teacher and 1 teacher's aide. In addition, these teachers should have special training in how to teach children with ASD. Such expertise includes but is not limited to Applied Behavioral Analytic Techniques, intensive training in language acquisition and the knowledge of the language that children with ASD produce, the knowledge of how to make learning appealing to children with ASD, the knowledge and expertise in the acquisition of give and take and play. Clearly being provided with 20 minutes of expertise PER MONTH is not enough to provide an adequate educational environment or experience for DK.

D K was also in Flint and drank the water that was contaminated by lead. Putatively, the child was around 3-4 when he was exposed to lead. His continuing inability to progress and acquire age appropriate behaviors is consistent with lead poisoning. The deficits known to be caused by lead have not been addressed in D, either. These deficits include, among many others, inattention, the inability to control impulses and cognitive deficits across many domains.

The fact that D has not received the appropriate schooling will lead to his inability to gain adult employment and any hope of contentment in his lifetime.

I certify that I personally evaluated D K, employing age-appropriate instruments and procedures as well as informed clinical opinion. I further certify that the findings contained in this report accurately represent his level of functioning at the time of my assessment. I hold this opinion and all others in this report with a reasonable degree of psychological and neuropsychological certainty.

Vicki Sudhalter, PhD

Vicki Sudhalter, Ph.D.
Licensed Psychologist

SUDHALTER REPORT

Exhibit F

BEHAVIORAL EVALUATION REPORT

Patient: JB
Date of Birth: 5/17/2011
Dates of Evaluation: 09/20/2017
Age: 6 years, 4 months
Test Site: Flint, Michigan

The purpose of this evaluation was to determine the basic motor, cognitive and behavioral performance resources of JB, and their impact on his educability and ability to execute activities of daily living.

JB's mother had on going concerns with her son. She felt that JB was easily distracted, and not able to be still for longer than 2 minutes. Additionally, she felt that J was not able to interpret the information he was exposed to correctly. J had been attending the Autism Center from Monday through Thursday afternoons where he was working on 2+ step commands, writing, social skills and gross motor skills. JB's mother wanted her son to receive an appropriate education in Flint.

In 2016, when J was 5, an evaluation was initiated. He was found to be pleasant and cooperative, to have earned at IQ in the low average range on the WPPSI-IV and to have exhibited average range performance in Early Academic and Language skills. Both his mother and his teacher at the time completed the GARS-3 (a rating scale that determines ASD diagnosis). The results from the GARS-3 substantiated the fact that J met the diagnostic criteria for ASD and this meant that he would require substantial support. What follows are the recommendations that were made:

J was to have access to the classroom curriculum in a full-time general education classroom with the following accommodations: administration of assessments in a small group or individually, provide visual/auditory/physical cues to student to begin/maintain/finish task, and teacher consultant for ASD.

J was to receive direct speech and language services to address his deficits in language (1-4 monthly15-30 minutes sessions).

J was to receive direct social work services to address his social skill deficits (1-4 monthly 15-30 minute sessions).

J qualified for consultative OT services to support sensory processing and handwriting, for more independent and accurate classroom performance. Consult services were to be provided on a monthly basis, to provide strategies, recommend techniques to teacher and /or parent.

Neither the OT nor the ASD consultative services were stipulated (as to length or amount) on the IEP.

Present Evaluation

JB was observed and administered the WPPSI-IV. His mother was administered a behavioral evaluation which consisted of the Vineland Adaptive Behavior Scales - 3 (VABS-3). This evaluation lasted approximately 3 hours.

Intelligence Assessment

The Wechsler Preschool and Primary Scale of Intelligence-Fourth Edition (WPPSI-IV) was administered to J. He obtained Full-Scale IQ of 72 (3rd percentile), in the borderline range. What was of note in the administration of the test, was that it was very difficult to capture J's attention; he perseverated on the fact that he was going to be given a sweet, and he willfully disobeyed instructions (in the Bug Search test). All of these behaviors could be interpreted as maladaptive, until one realizes that J is presenting with ASD and that what I was asking him to do was, for J, a change in his routine, which he really did not appreciate.

He had particular difficulty with verbal concept formation (performance in the intellectually deficient range), bug search (performance in the intellectually deficient range) and information (performance in the intellectually deficient range).

Vineland Adaptive Behavior Scales -3 Comprehensive Interview Form

The Vineland Adaptive Behavior Scales - third edition (VABS-III) is a comprehensive questionnaire that provides measures of adaptive behavior within four competency domains: Communication, Daily Living Skills, Socialization and Motor Skills. The results of this assessment, as completed by J's mother, are presented in Table 1.

Table 1. VABS-III Results

Domain	Subdomain	v-Scale Score	Age Equivalent
Communication	Receptive	7	1 year 9 mos
	Expressive	10	2 years 10 mos
	Written	14	6 years 1 mo
Standard Score : Communication: 74 +/- 4			
Daily Living Skills	Personal	11	3 years 6 mos
	Domestic	15	6 years 4 mos

	Community	11	4 years 10 mo
Standard Score : Daily Living Skills: 84 +/- 4			
Socialization	Interpersonal Relationships	11	2 years 7 mos
	Play & Leisure	13	4 years 2 mos
	Coping	12	3 years 6 mos
Standard Score :Socialization: 84 +/- 4			
Motor Skills	Gross	16	7 years 3 mos
	Fine	11	4 years 1 mo
Standard Score: Motor Skills 89 +/- 5			

J's Adaptive Behavior Composite score is 78 +/- 2. This summarizes J's overall level of adaptive functioning, and is within the borderline range. Domain scores that are at least ten points above or below the median composite score are considered to represent personal strengths and weakness, respectively. In this case, J can be seen to exhibit delays in all areas of adaptive functioning.

It is of note to highlight some of J's behaviors. For instance he cannot reliably respond appropriately to questions, cannot pay attention for 15 minutes, or follow three step commands. J does not use pronouns correctly, does not ask "what" questions, does not use the past tense of the verb nor is able to tell a story.

He is not toilet trained for the night, has difficulty wiping and blowing his nose, and does not recognize the right from the wrong side in clothing. He cannot connect zippers, button small buttons or know which clothing to wear if it is raining or cold.

J does not look both ways when crossing the street or obey traffic lights and symbols.

J does not maintain culturally appropriate eye contact, does not try to please others on his own initiative and does not talk with others about shared interests. His mother states that J does not understand that strangers can be dangerous. And he has no idea of social cues.

J cannot control his anger or hurt when corrected.

He displays some fine motor deficits.

J engages in pica behavior by putting dust, rocks, marbles and crayons in his mouth. He is also reported to withdraw, preferring to be alone and to sometimes appear to lack interest in what he is doing. He has temper tantrums, lies, can be stubborn and argumentative, breaks rules and is much

more restless than others his own age.

J becomes fixated, will use strange and repetitive speech, hand flap, "zone out," and have toiletting accidents.

Gilliam Autism Rating Scale

JB has already met the Flint Michigan criteria for a diagnosis of ASD. The GARS was administered to both his mother and his teacher. He was given this diagnosis but not the schooling that he needs to acquire adaptive, age appropriate behaviors.

Summary

JB meets the diagnostic criteria for Autism Spectrum Disorder and has met the accepted national definition of ASD for the length of time he has been in the Flint School System.

J has not received appropriate schooling to help him acquire the behaviors which would lead to a more productive and satisfying adulthood.

In order to provide J with the education he needs to have any hope of developing any age appropriate skills he should be receiving 3-4 **weekly** occupational therapy sessions which would help him with his fine motor deficits, using the utensils of his world and toiletting. Each session should last 30-40 minutes.

He should be receiving three **weekly** socialization classes so he can learn the language and the societal cues necessary to understand his world and how to make friends. J has to learn how to play with others and respect the space of others. Each session should last 40-50 minutes.

J should be receiving three-four weekly speech and language classes where he can a) learn language and how to use it and b) learn the language to be used in social situations. Each session should last 30-40 minutes.

An adequate FBA should be created for J which takes into account his ASD diagnosis and which actually deals with the environmental contingencies that contribute to the emergence of maladaptive behaviors in J. Appropriate modifications to the environment should be considered and appropriate techniques for attentional and behavioral control implemented, before considering medicine.

J should not be in a mainstream or regular education classroom. He should be in a classroom of no more than 8 students with 1 teacher and 1 teacher's aide. In addition, these teachers should have special training in how to teach children with ASD. Such expertise includes but is not limited to Applied Behavioral Analytic Techniques, intensive training in language acquisition and the knowledge of the language that children with ASD produce, the knowledge of how to make learning appealing to children with ASD, the knowledge and expertise in the acquisition of give

and take and play. Clearly being provided with 20 minutes of expertise PER MONTH is not enough to provide an adequate educational environment or experience for JB . It would be good for JB to have as many mainstream experiences as possible (not to be sitting in a mainstream school) so he can practice his socialization skills with neurotypically developing children. These interactions should be structured, modeled and discussed so J can develop more appropriate interaction skills.

J was also in Flint and drank the water that was contaminated by lead. His continuing inability to progress and acquire age appropriate behaviors is consistent with lead poisoning. The deficits known to be caused by lead have not been addressed in J, either. These deficits include, among many others, inattention, the inability to control impulses and cognitive deficits across many domains.

The fact that J has not received the appropriate schooling will lead to his inability to gain adult employment and any hope of contentment in his lifetime.

I certify that I personally evaluated JB, employing age-appropriate instruments and procedures as well as informed clinical opinion. I further certify that the findings contained in this report accurately represent his level of functioning at the time of my assessment. I hold this opinion and all others in this report with a reasonable degree of psychological and neuropsychological certainty.

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