PETER VERMEULEN, PhD

peter_autisme

www.petervermeulen.be

AUTISM in CONTEXT

from neurodiversity to neuroharmony

Autism and the predictive mind. Context blindness 2.0

What do we know about ASD?

DSM-5 criteria for autism spectrum disorders

An individual must meet criteria A, B, C and D:

A. Persistent deficits in social communication and social interaction across contexts, not accounted for by general developmental delays, and manifest by all 3 of the following:

1. Deficits in social-emotional reciprocity; ranging from abnormal social approach and failure of normal back and forth conversation through reduced sharing of interests, emotions, and affect and response to total lack of initiation of social interaction.
2. Deficits in nonverbal communicative behaviors used for social interaction; ranging from poorly integrated- verbal and nonverbal communication, through abnormalities in eye contact and body-language, or deficits in understanding and use of nonverbal communication, to total lack of facial expression or gestures.
3. Deficits in developing and maintaining relationships, appropriate to developmental level (beyond those with caregivers); ranging from difficulties adjusting behavior to suit different social contexts through difficulties in sharing imaginative play and in making friends to an apparent absence of interest in people

B. Restricted, repetitive patterns of behavior, interests, or activities as manifested by at least two of the following:

1. Stereotyped or repetitive speech, motor movements, or use of objects; (such as simple motor stereotypies, echolalia, repetitive use of objects, or idiosyncratic phrases).
2. Excessive adherence to routines, ritualized patterns of verbal or nonverbal behavior, or excessive resistance to change; (such as motoric rituals, insistence on same route or food, repetitive questioning or extreme distress at small changes).
3. Highly restricted, fixated interests that are abnormal in intensity or focus; (such as strong attachment to or preoccupation with unusual objects, excessively circumscribed or perseverative interests).
4. Hyper-or hypo-reactivity to sensory input or unusual interest in sensory aspects of environment; (such as apparent indifference to pain/heat/cold, adverse response to specific sounds or textures, excessive smelling or touching of objects, fascination with lights or spinning objects).

C. Symptoms must be present in early childhood (but may not become fully manifest until social demands exceed limited capacities)

D. Symptoms together limit and impair everyday functioning

SOCIAL & COMMUNICATION PROBLEMS

LACK OF FLEXIBILITY

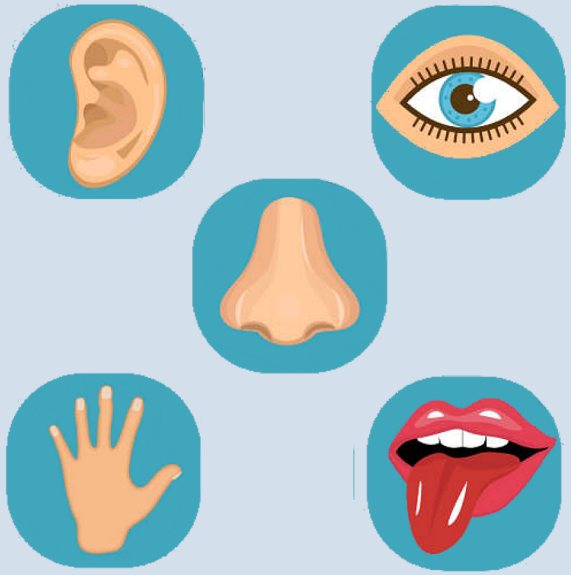
Autism friendliness

- There is no such category as “autistic behaviors”, only “human behaviors (Barry Prizant)
- An autism friendly approach starts from an understanding of autism from within!
- Knowledge of “autistic thinking” is the key to success in education and treatment!

Standard idea about the brain

Computational analogy

Input → Processing → output

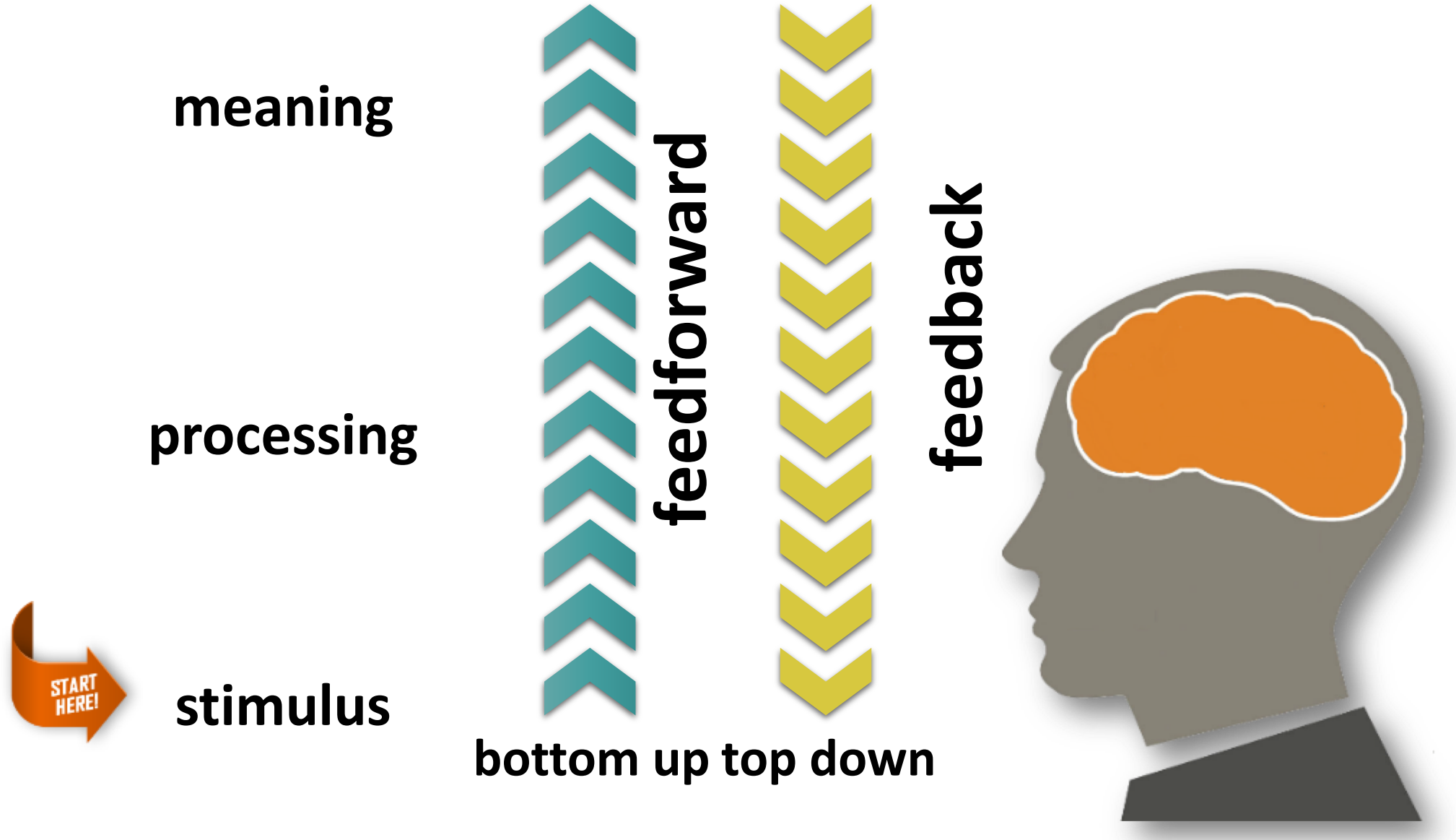


Perception → Cognition → Action

What's wrong with our current ideas about the brain?

- Information processing is not linear
- Sense making is not just integrating all the details of the sensory input
  - There isn't enough time to calculate and make that puzzle! (Daniel Kahneman)
  - Processing all the sensory input (computing) is not very helpful for survival! (Smilodon story)
- So, the brain does not compute, It guesses,
- And it can make smart guesses because it uses context,
- This is known as: **the predictive mind**

So, it does NOT work like this



But it works like this

prediction

Checking prediction (prediction error)

stimulus

feedback

feedforward

bottom up top down

The predictive mind

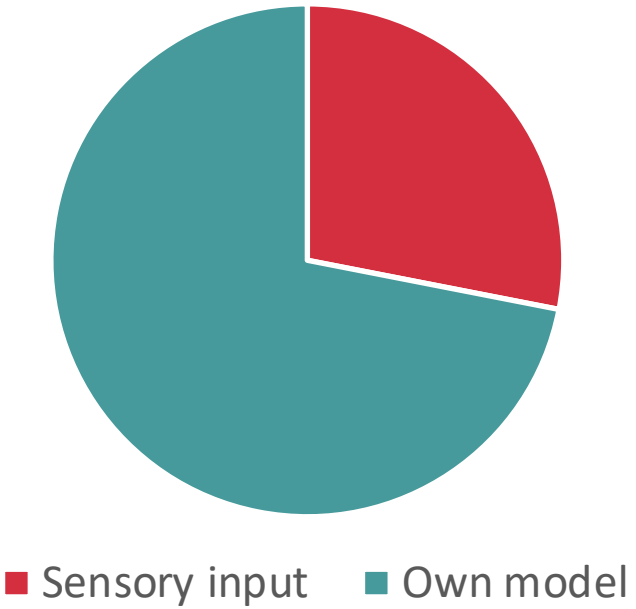
- The brain does not process stimuli, only what is different from the stimuli it predicted…
- The brain is a prediction organ and it doesn’t like prediction errors
- The brain has only one goal:
  helping us to survive by minimizing prediction errors
  - Learning (unconscious perceptual and conscious active)
  - Changing the world

The predictive mind: precision

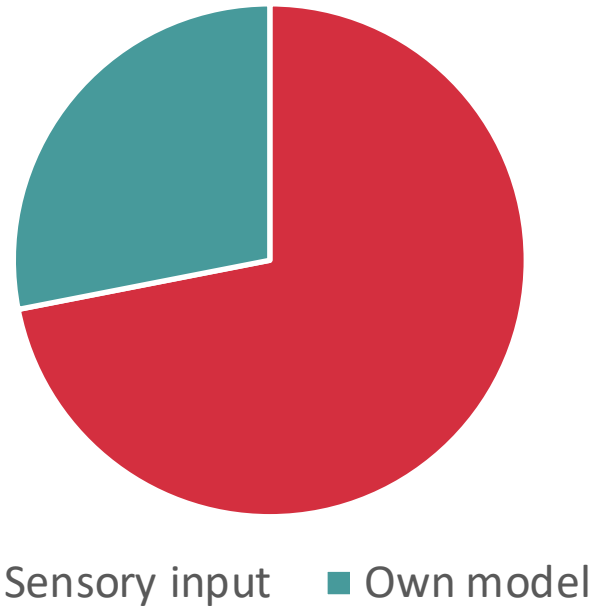
- The brain knows it cannot avoid all prediction errors. Therefore, it uses a variable precision in handling prediction errors

The weight given to sensory input or own expectations depends on the context

Known environment

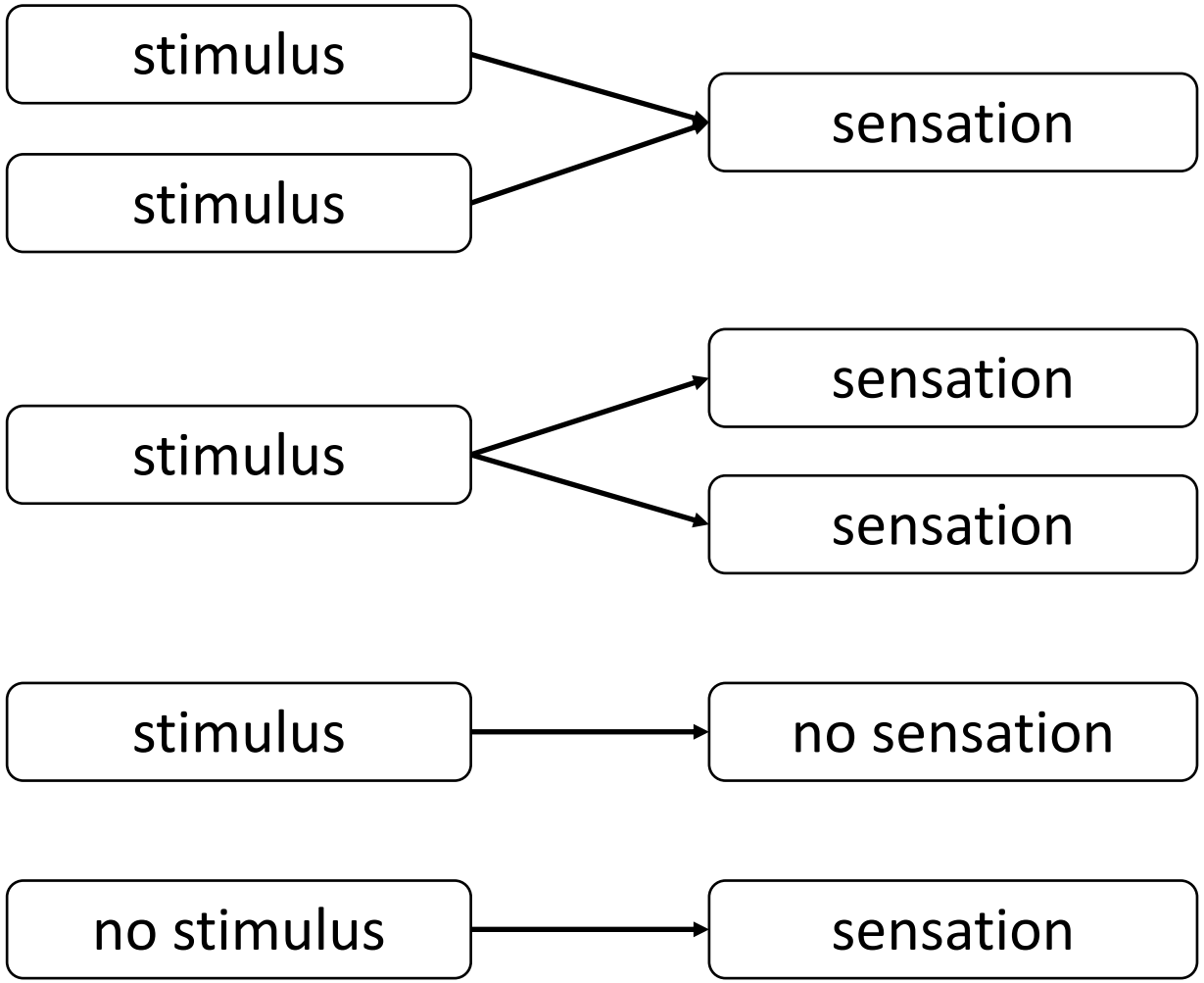


Unknown environment



How much weight you give to a prediction error depends on how certain you are about your model of the world and the predictions based on that model (Lawson, Mathys & Rees, 2017)

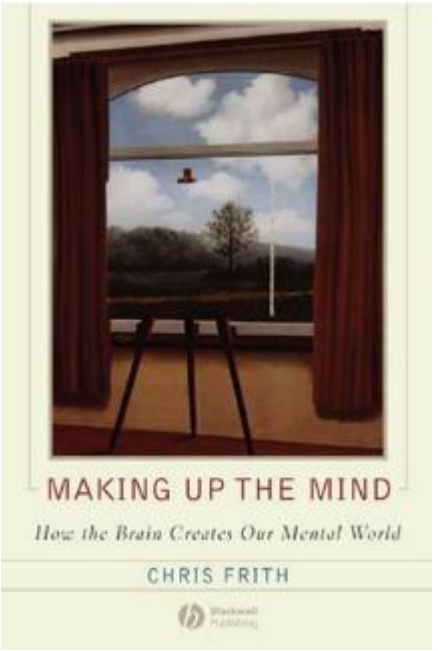
Sensory input is highly unreliable



Perception is controlled hallucinating.

We don’t see the world, but our model of the world.

Our perception of the world is an **illusion** that (in most cases, fortunately) coincides with reality.



Chris Frith

Predictive mind

Predicts the sensory input and then processes the prediction error (= difference predicted and actual input)

Autism, the predictive mind and context

- In autism the flexible adjustment in function of context of predictions and the weight given to prediction error seems to be affected
- HIPPEA:

  High, Inflexible Precision of Prediction Errors in Autism

  (Van de Cruys a.o., 2013, 2014)

Psychological Review
2014, Vol. 121, No. 4, 649–675

0033-295X/14/$12.00 http://dx.doi.org/10.1037/a0037665

Precise Minds in Uncertain Worlds: Predictive Coding in Autism

Sander Van de Cruys, Kris Evers, Ruth Van der Hallen, Lien Van Eylen,
Bart Boets, Lee de-Wit, and Johan Wagemans
KU Leuven

Hypothesis Palmer, Lawson, Hohwy (2017)

Psychological Bulletin

Bayesian Approaches to Autism: Towards Volatility, Action, and Behavior

Colin J. Palmer, Rebecca P. Lawson, and Jakob Hohwy

Online First Publication, March 23, 2017. http://dx.doi.org/10.1037/bul0000097

The autistic brain treats sensory input as more informative than its own model of the world (based on prior information)

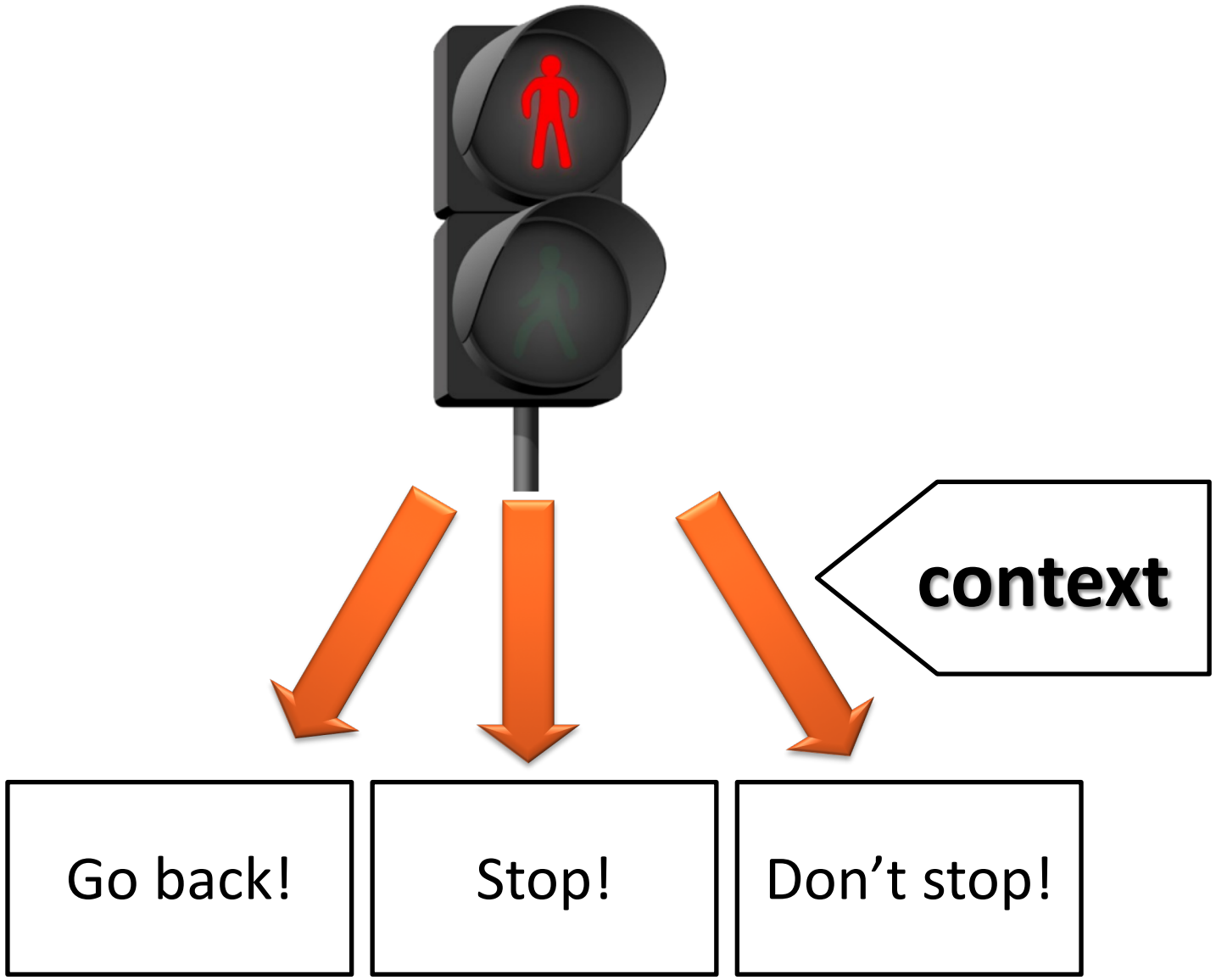
Autism and the predictive mind

- In autism, there seems to be a problem with predictions, the precision of input and priors, and the handling of prediction errors.
- There's a deficit in the flexible adjustment of predictions and their precision in function of context
- Autism may be related to problems with making predictions sensitive to the wider context."
  (Palmer a.o., 2015)
- Autism may relate to a difference in the mechanisms that control the context-sensitive adjustment of precisions (Palmer a.o., 2017)

Context helps us to make sense of the world

Especially when the input is new, vague, unknown and ambiguous

Living in a relative (VUCA) world



Nothing has an absolute meaning! Everything depends on context.

Therefore, our brain became an expert in **using context for making quick and smart guesses**.

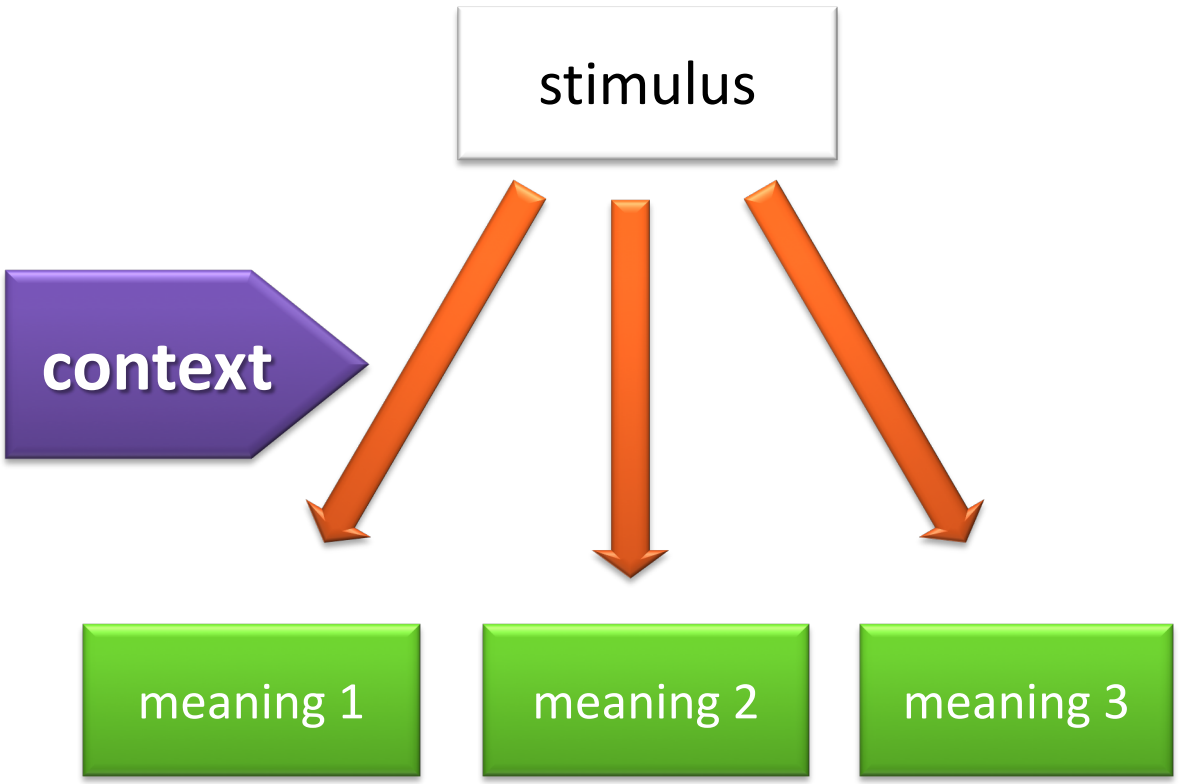
How does the brain use context?

Well,

We don't know *how*.

But we do know the brain does it ***spontaneous*** and ***very, very fast***

Absolute thinking in a relative world

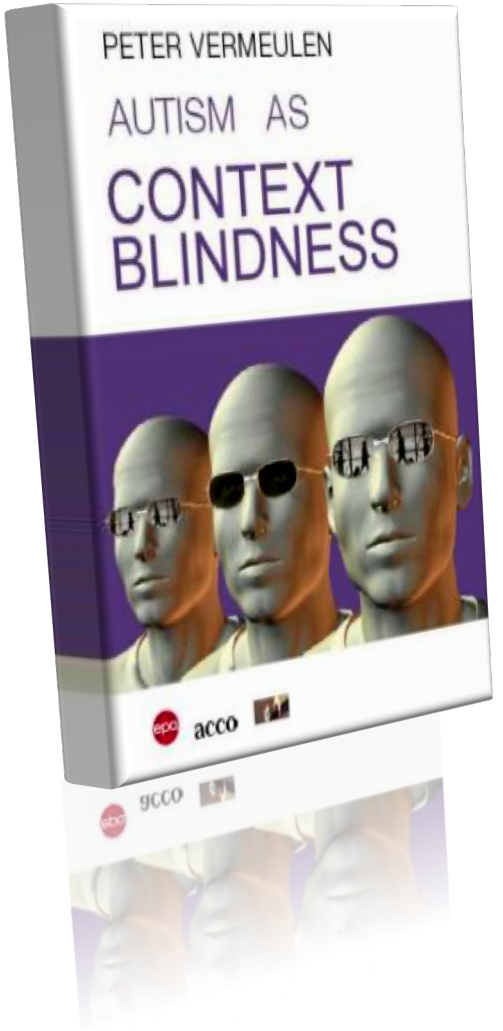


Neurotypical brain

Autistic brain

Autism as context blindness

Reduced ability to use the context **spontaneously** in giving meaning to (especially vague, ambiguous, new and abstract) stimuli.

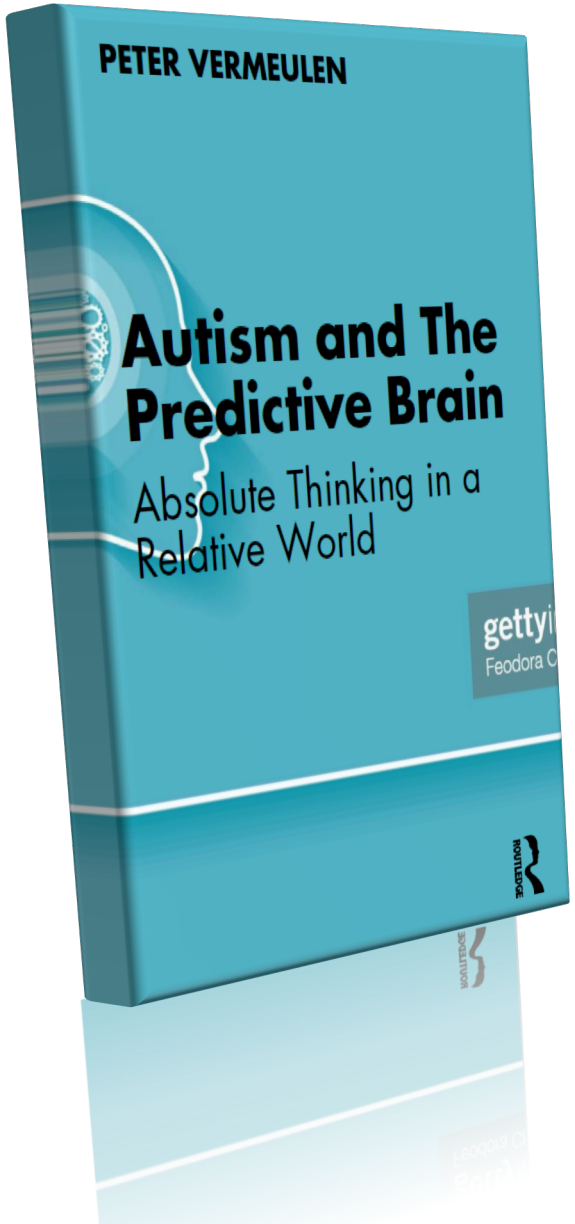


Autism as context blindness 2.0

Context blindness 2.0:

Reduced ability to use the context unconsciously and **spontaneously** to generate **predictions** about the world and process **prediction errors**.

ABSOLUTE THINKING IN A RELATIVE WORLD



Important difference!

Hypersensitivity:

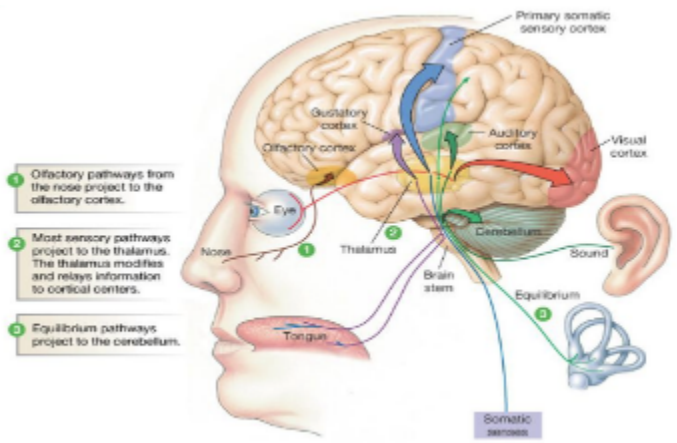
- Physiological response
- Sensory threshold

≠

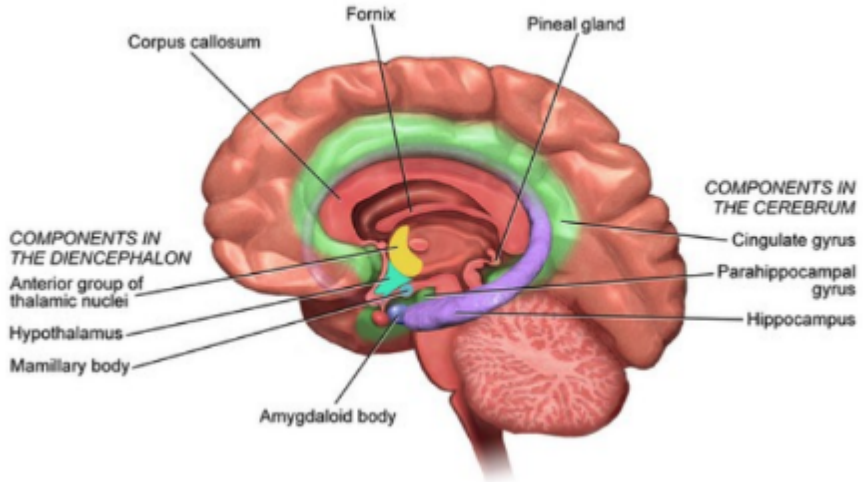
Hyperreactivity:

- Psycho-emotional / behavioural response

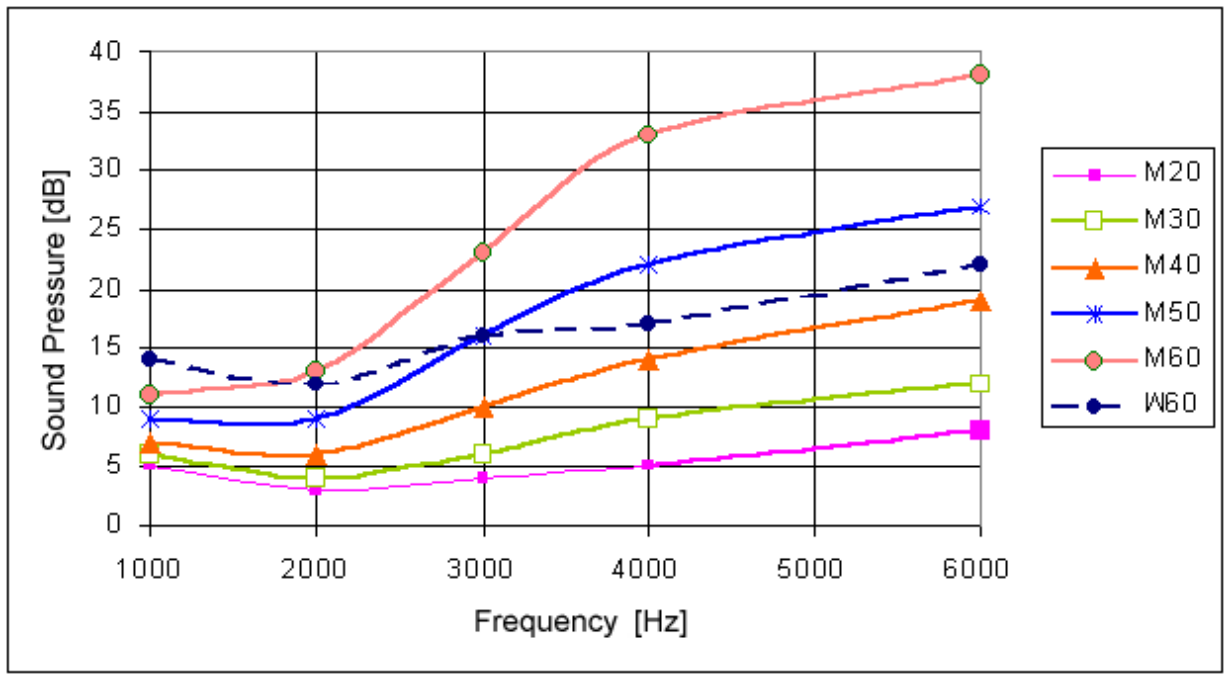
The Sensory System

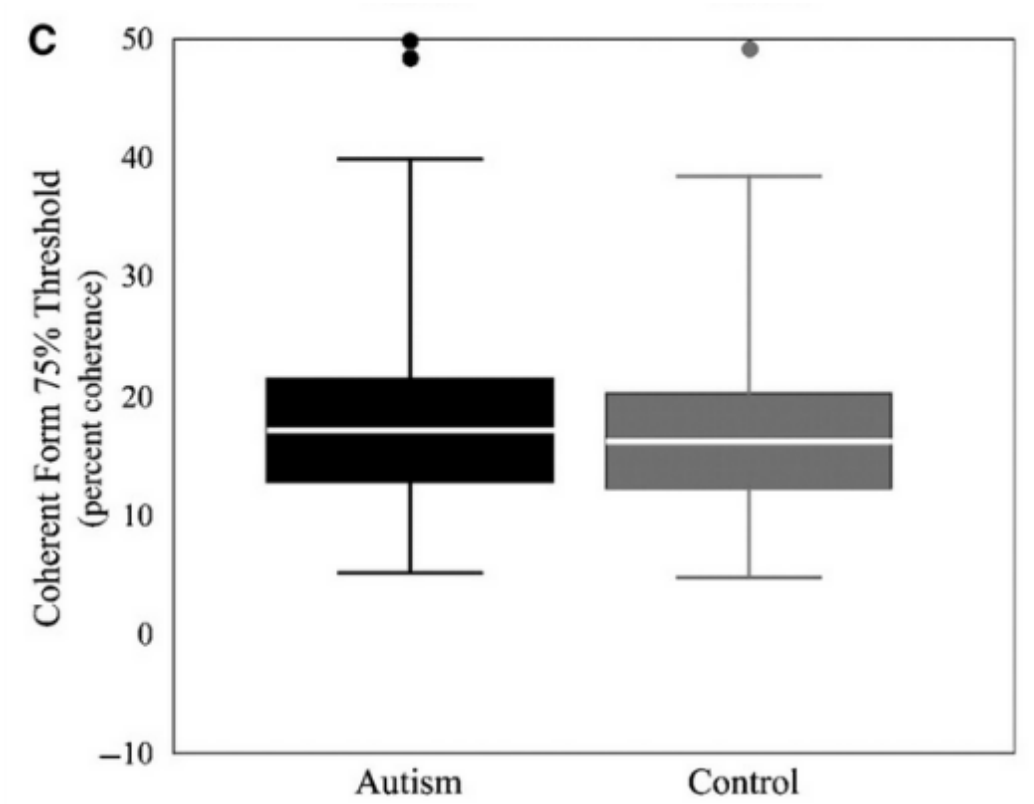


The Limbic System



Keine eindeutigen, klaren Indikationen für verschiedene sensorische Schwellen bei Autismus



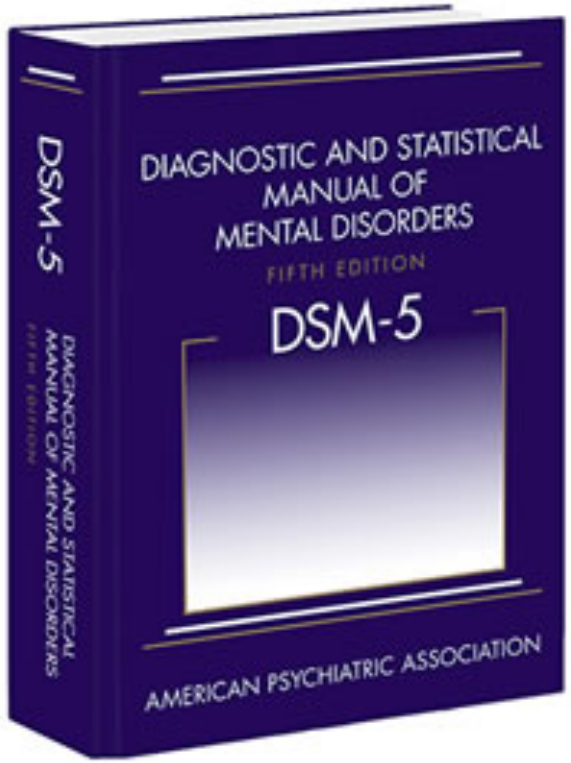


No unambiguous, clear indications for difference in sensory thresholds in autism

Kuiper, M. W., Verhoeven, E. W., & Geurts, H. M. (2019). Stop making noise! Auditory sensitivity in adults with an autism spectrum disorder diagnosis: physiological habituation and subjective detection thresholds. *Journal of Autism and Developmental Disorders*, *49*(5), 2116-2128.

Stiegler, L. N., & Davis, R. (2010). Understanding sound sensitivity in individuals with autism spectrum disorders. *Focus on Autism and Other Developmental Disabilities*, *25*(2), 67-75.

Lucker, J. R. (2013). Auditory hypersensitivity in children with autism spectrum disorders. *Focus on Autism and Other Developmental Disabilities*, *28*(3), 184-191.



Die DSM-5-Kriterien für Autismus

A. Andauernde Defizite der sozialen Kommunikation und sozialen Interaktion in allen Kontexten, die nicht durch generelle Entwicklungsverzögerungen erklärt werden und sich in allen folgenden Bereichen manifestieren:

1. Defizite der sozial-emotionalen Gegenseitigkeit
2. Defizite im nonverbalen kommunikativen Verhalten in der sozialen Interaktion
3. Defizite beim Eingehen und Aufrechterhalten von Beziehungen, entsprechend dem Entwicklungsstand (ausgenommen solcher zu Bezugspersonen)

B. Restriktive, repetitive Verhaltensmuster, Interessenmuster, oder Aktivitätsmuster, die sich in wenigstens zwei der folgenden Bereiche manifestieren:

1. Stereotype/s/r oder repetitive/s/r Sprechen, Bewegungen, oder Gebrauch von Objekten (wie zum Beispiel einfache motorische Stereotypien, Echolalie, repetitiver Gebrauch von Objekten, oder idiosynkratrische Phrasen)
2. Exzessives Festhalten an Routinen, ritualisierte Muster verbalen oder nonverbalen Verhaltens, oder exzessiver Widerstand gegen Veränderung (wie zum Beispiel Bewegungsrituale, Beharren auf demselben Weg oder dem gleichen Essen, repetitive Fragen oder extremer Stress durch kleine Änderungen)
3. Hochgradig eingegrenzte, fixierte Interessen, die nicht normal in Hinblick auf Intensität oder Thema sind (wie zum Beispiel starke Bindung an oder Beschäftigung mit ungewöhnlichen Objekten, exzessive eingeengte oder perseverierende Interessen)
4. Hyper- oder Hypo-Reaktivität auf sensorischen Input oder ungewöhnliches Interesse an sensorischen Aspekten der Umgebung (wie zum Beispiel off ensichtliche Unempfindlichkeit gegenüber Schmerz/Hitze/Kälte, starke überempfindliche Reaktion auf spezifische Geräusche oder Texturen, exzessives Riechen oder Berühren von Objekten, Faszination von Lichtern oder sich bewegenden Objekten).

C. Symptome müssen seit früher Kindheit vorhanden sein (aber können sich erst dann können voll manifestieren,, wenn soziale Anforderungen die Kompensationsmöglichkeiten überschreiten).

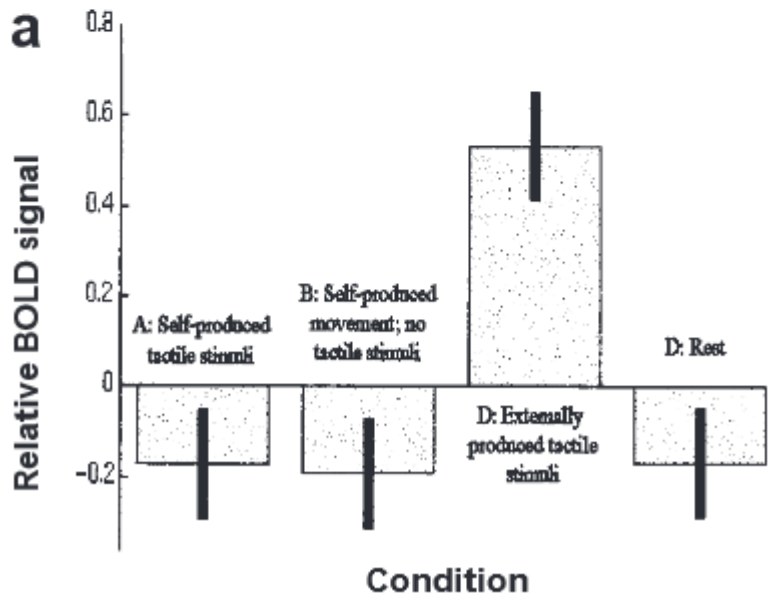
D. Symptome begrenzen und beeinträchtigen insgesamt das alltägliche Funktionieren.

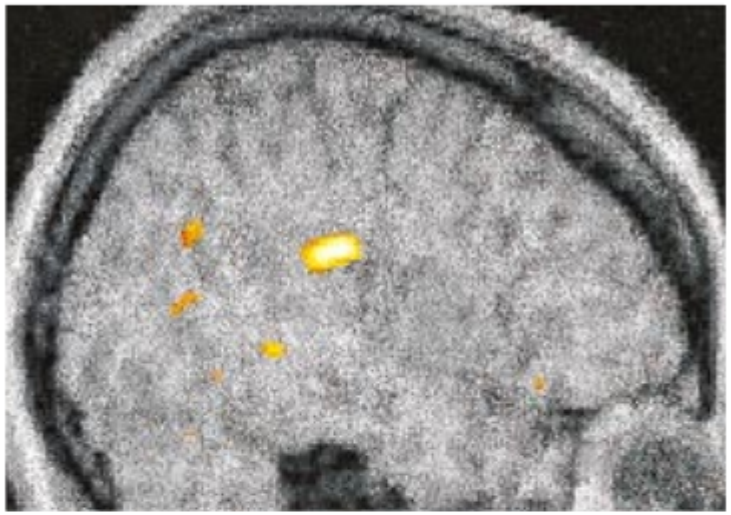
Why can't you tickle yourself?

Sarah-Jayne Blakemore,[CA] Daniel Wolpert and Chris Frith

Wellcome Department of Cognitive Neurology, Institute of Neurology, University College London, 12 Queen Square, London WC1N 3BG, UK

[CA]Corresponding Author





Keine stärkere sensorische Reaktion aber stärkeres Erleben von Stimuli

RESEARCH ARTICLE

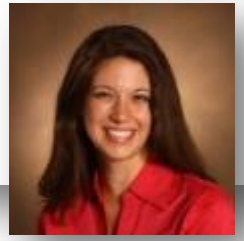
Perceptual and Neural Response to Affective Tactile Texture Stimulation in Adults with Autism Spectrum Disorders

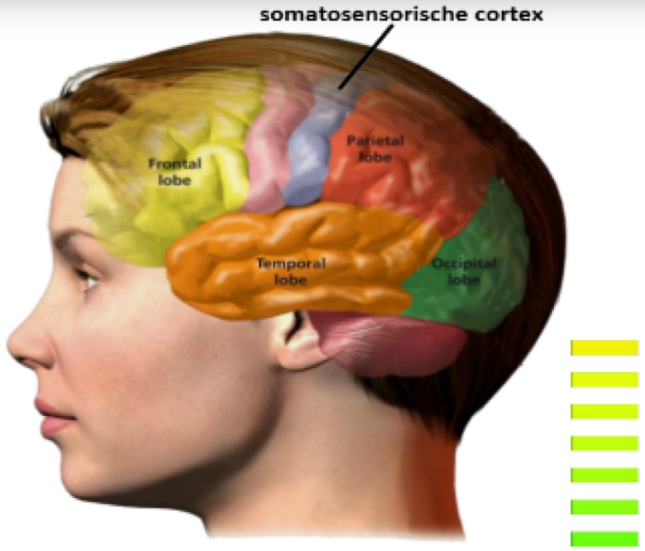
Carissa J. Cascio, Estephan J. Moana-Filho, Steve Guest, Mary Beth Nebel, Jonathan Weisner, Grace T. Baranek, and Gregory K. Essick

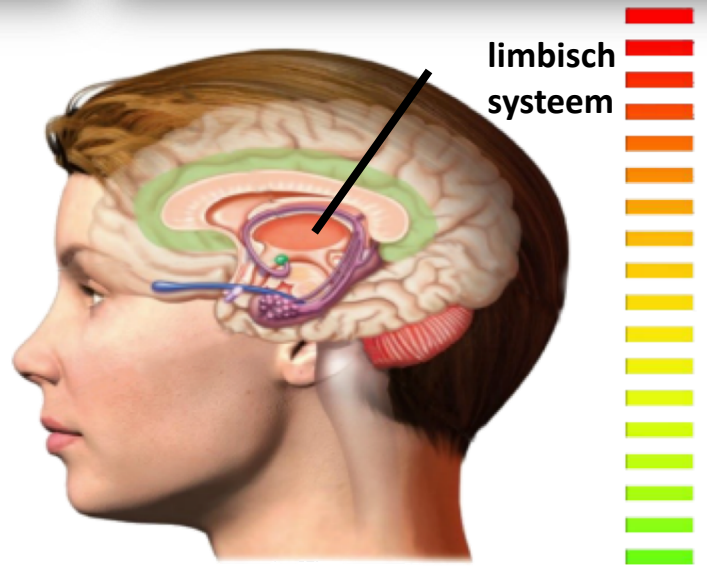
J Autism Dev Disord (2008) 38:127–137
DOI 10.1007/s10803-007-0370-8

Tactile Perception in Adults with Autism: a Multidimensional Psychophysical Study

Carissa Cascio · Francis McGlone · Stephen Folger · Vinay Tannan · Grace Baranek · Kevin A. Pelphrey · Gregory Essick

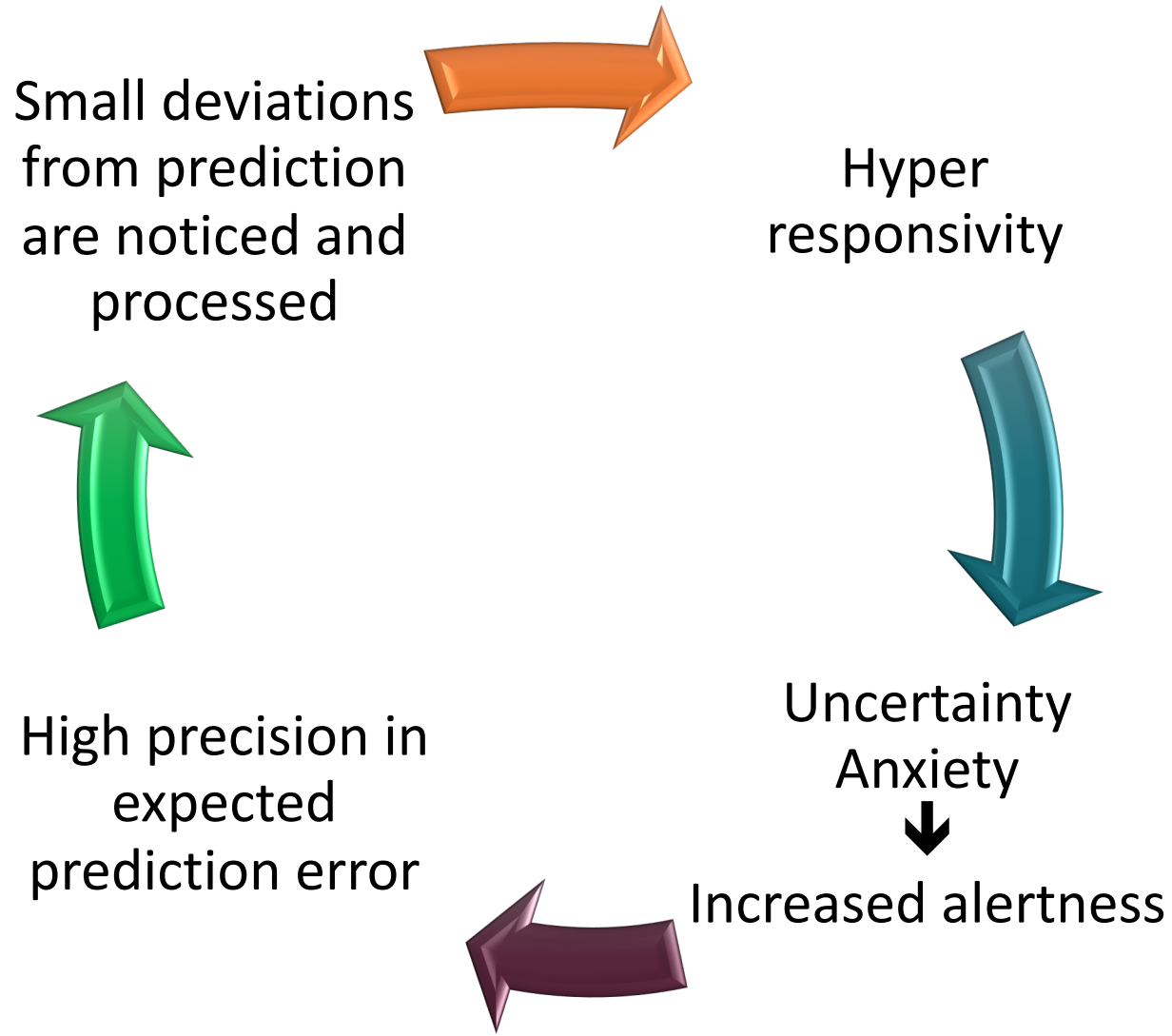






Interventionen auf das limbische System anstatt auf das sensorische System…

Sensory or anxiety and uncertainty?



Uncertainty drives anxiety, sensory issues in autism

BY **ANN GRISWOLD** / 8 APRIL 2016

Sensory overload: *Children with autism may perceive uncertainty as a threat.*

©shutterstock.com/ Kuznetcov_Konstantin

J Autism Dev Disord (2016) 46:1962–1973
DOI 10.1007/s10803-016-2721-9

CrossMark

ORIGINAL PAPER

The Relationship Between Intolerance of Uncertainty, Sensory Sensitivities, and Anxiety in Autistic and Typically Developing Children

Louise Neil[1] · Nora Choque Olsson[2] · Elizabeth Pellicano[1,3]

https://www.spectrumnews.org

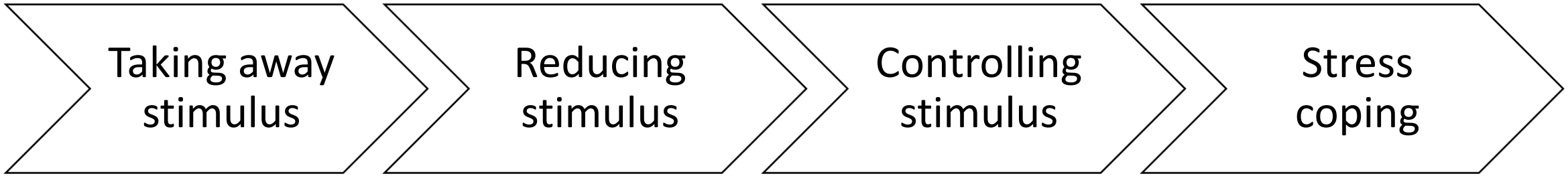
NEWS

Sensory overload in autism may stem from hypervigilant brain

BY **NICHOLETTE ZELIADT**

29 JULY 2019

Strategies for sensory issues: traditional way

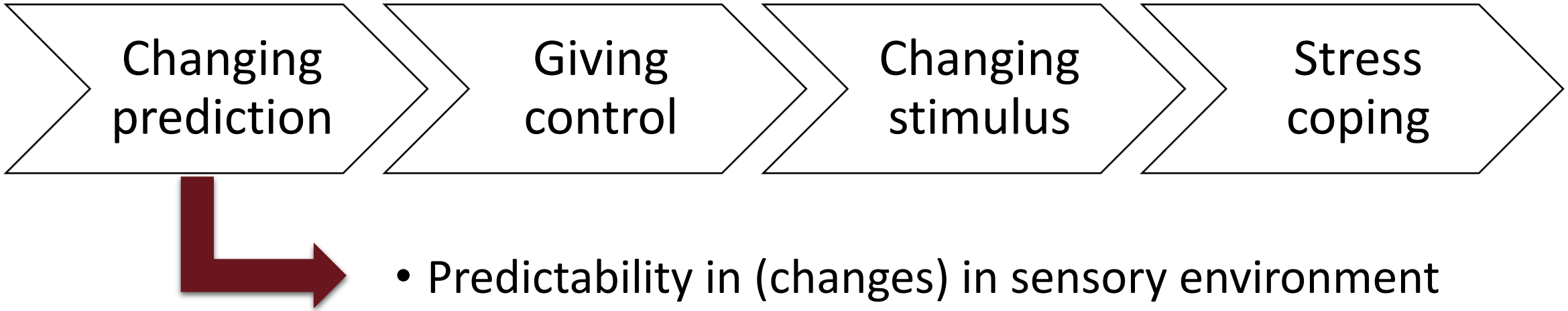


But from **Hyperacusis – Tinnitus** we learned:

- Do not eliminate sounds, but make sounds predictable and controllable :
- Working on **'feedforward**' (*prediction*) instead of 'feedback‘ (*stimulus*)

Strategies for sensory issues?

Tackle the prediction errors!



- Predictability in (changes) in sensory environment
- Contextual clarifying of stimuli:
  PUSH THE CONTEXT BUTTON
- Changing the brains model of the world

Strategies for sensory issues?

Tackle the prediction errors!

Changing prediction → Giving control → Changing stimulus → Stress coping

Perception, 2015, volume 44, pages 569–586

doi:10.1068/p7833

The sensory experiences of adults with autism spectrum disorder: A qualitative analysis

Ashley E Robertson§, David R Simmons
School of Psychology, University of Glasgow, UK; e-mail: ashleyerobertson@icloud.com
Received 6 August 2014, in revised form 2 April 2015

- Knowing how to ‘control’ the stimulus
- Generating a competitive stimulus (*again: predictability!*)

PAIN

Pain 74 (1998) 327–331

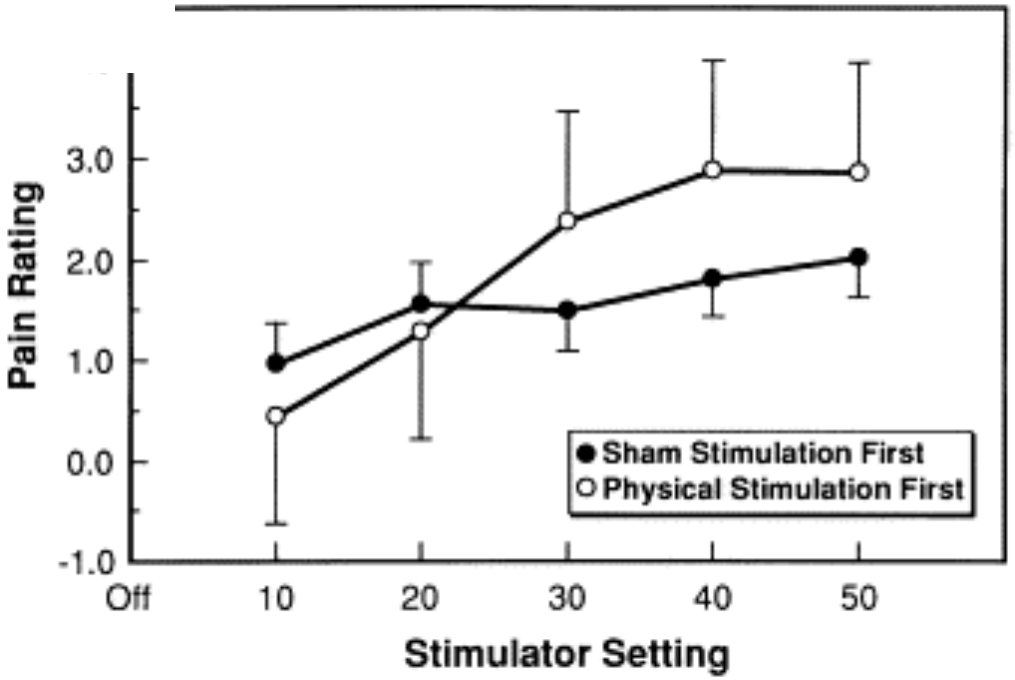
The role of prior pain experience and expectancy in psychologically and physically induced pain

Timothy L. Bayer[b], John H. Coverdale[a,b,*], Elizabeth Chiang[b], Mark Bangs[b]

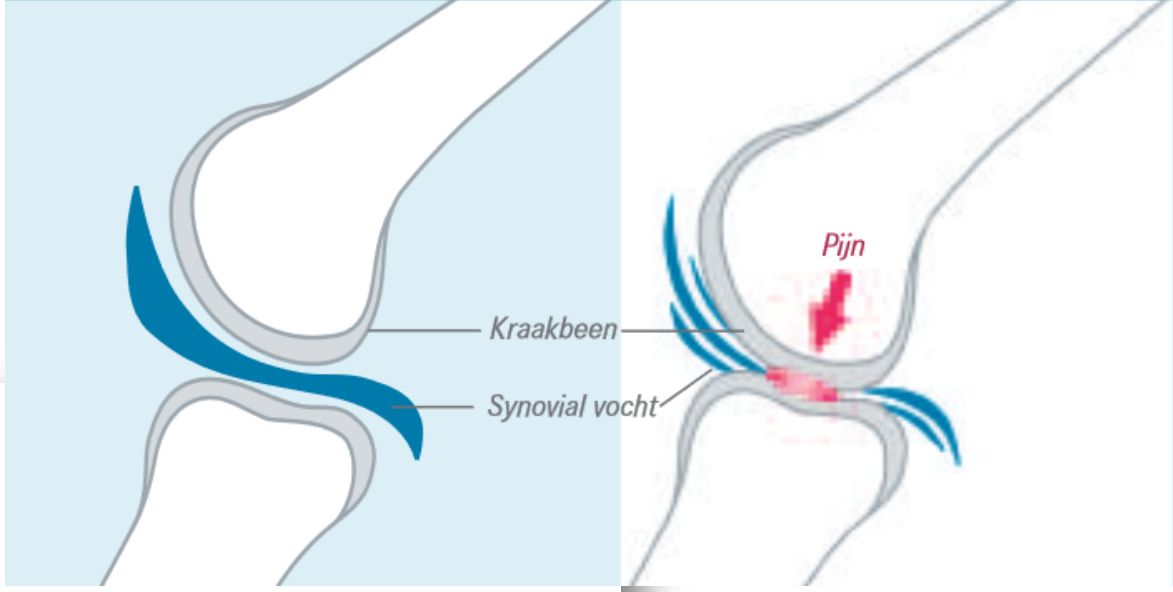
[a]*Department of Psychiatry and Behavioural Science, School of Medicine, The University of Auckland, Private Bag 92109, Auckland, New Zealand*
[b]*Department of Psychiatry and Behavioral Science, Baylor College of Medicine, Houston, Texas, USA*

Received 2 April 1997; received in revised form 27 October 1997; accepted 29 October 1997

If you can induce pain through information, you can also remove/reduce pain through information



Pain treatment 2.0



The New England
Journal of Medicine

VOLUME 347 JULY 11, 2002 NUMBER 2

A CONTROLLED TRIAL OF ARTHROSCOPIC SURGERY FOR OSTEOARTHRITIS OF THE KNEE

J. BRUCE MOSELEY, M.D., KIMBERLY O'MALLEY, PH.D., NANCY J. PETERSEN, PH.D., TERRI J. MENKE, PH.D., BARUCH A. BRODY, PH.D., DAVID H. KUYKENDALL, PH.D., JOHN C. HOLLINGSWORTH, DR.P.H., CAROL M. ASHTON, M.D., M.P.H., AND NELDA P. WRAY, M.D., M.P.H.

Die Wichtigkeit von Kontrolle

Perception, 2015, volume 44, pages 569–586

doi:10.1068/p7833

The sensory experiences of adults with autism spectrum disorder: A qualitative analysis

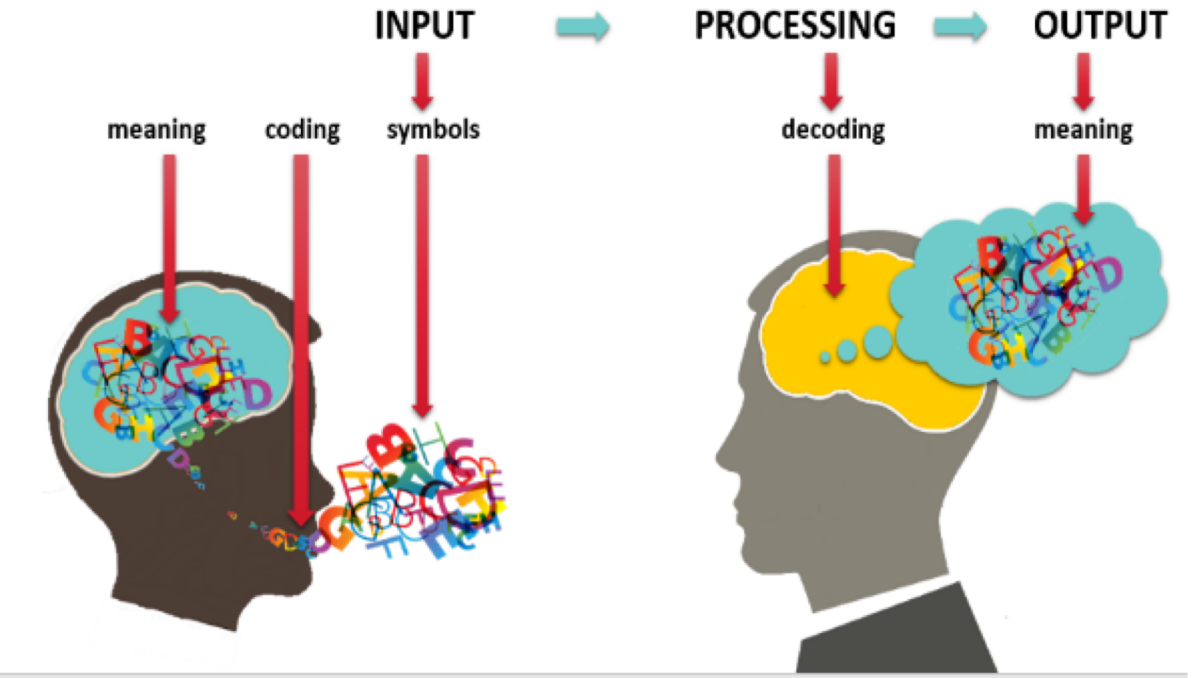
Ashley E Robertson§, David R Simmons
School of Psychology, University of Glasgow, UK; e-mail: ashleyerobertson@icloud.com
Received 6 August 2014, in revised form 2 April 2015

Abstract. It has been well established that individuals with autism spectrum disorder report unusual experiences with sensory stimuli compared with typically developing individuals. However, there is a paucity of research exploring the nature of such experiences. A focus group was conducted with six adults with a diagnosis of autism or Asperger syndrome. Data were coded and analysed using an inductive, qualitative thematic analysis. Four main themes encompassing both positive and negative sensory experiences emerged from these data: (a) the importance of particular aspects of stimuli in their perception, (b) the importance of having control over stimuli, (c) how emotions/mental states could impact/be impacted by sensory stimuli, and (d) physical responses to stimuli. These data are discussed alongside extant literature. Limitations, possible implications, and potential directions of future research are also discussed.

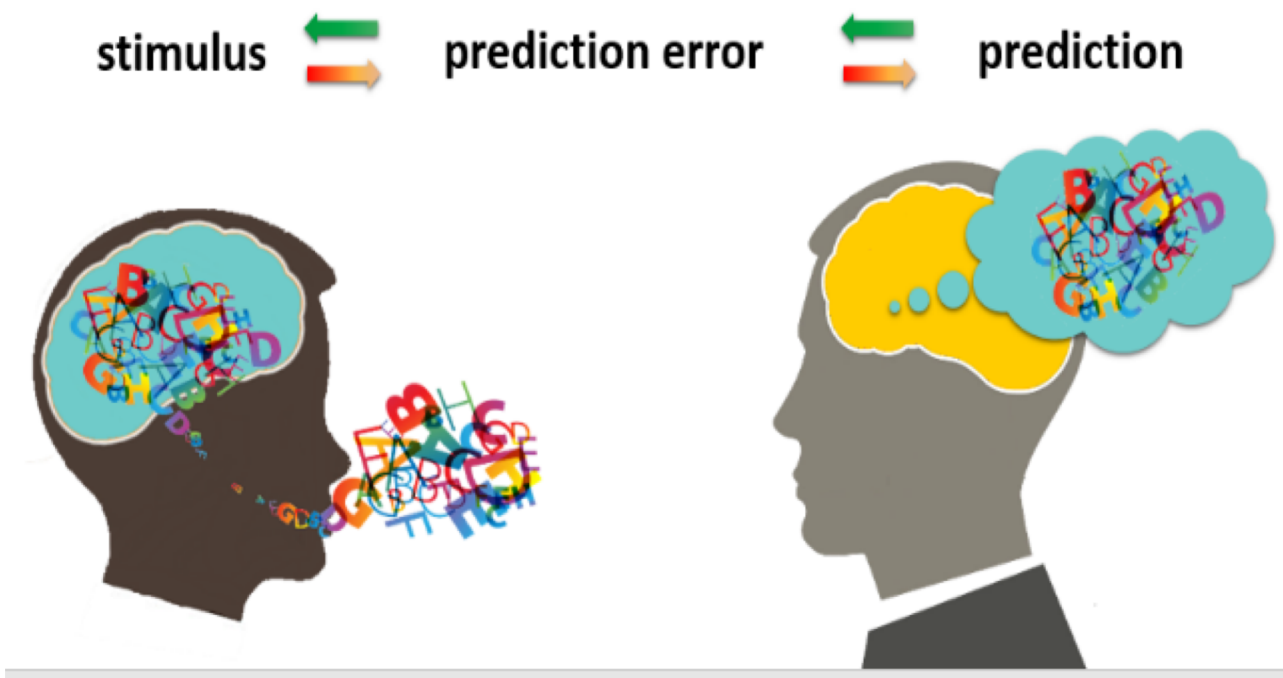
Keywords: autism spectrum disorders, sensory, qualitative, focus group

Understanding language and communication:

old model

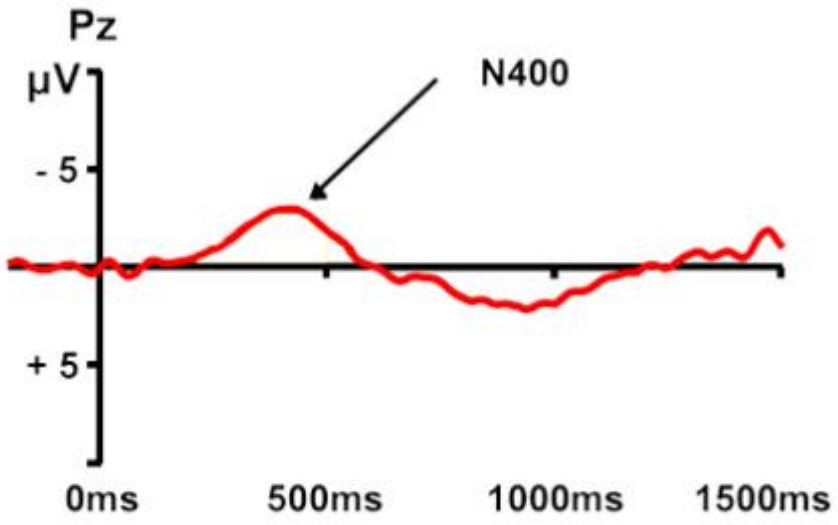


new model

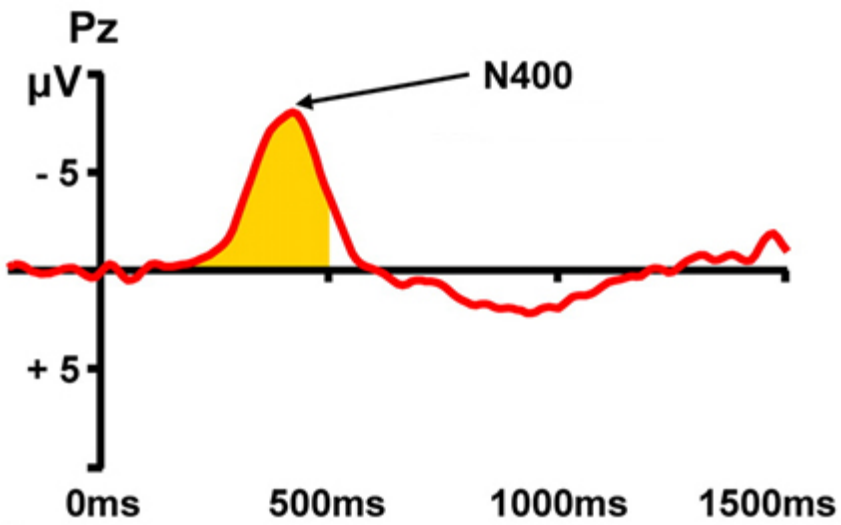


N400

John eats fries with mayonnaise



John eats fries with shoe



N400

- N400 lower in people with autism
  (Pijnacker a.o., 2010)

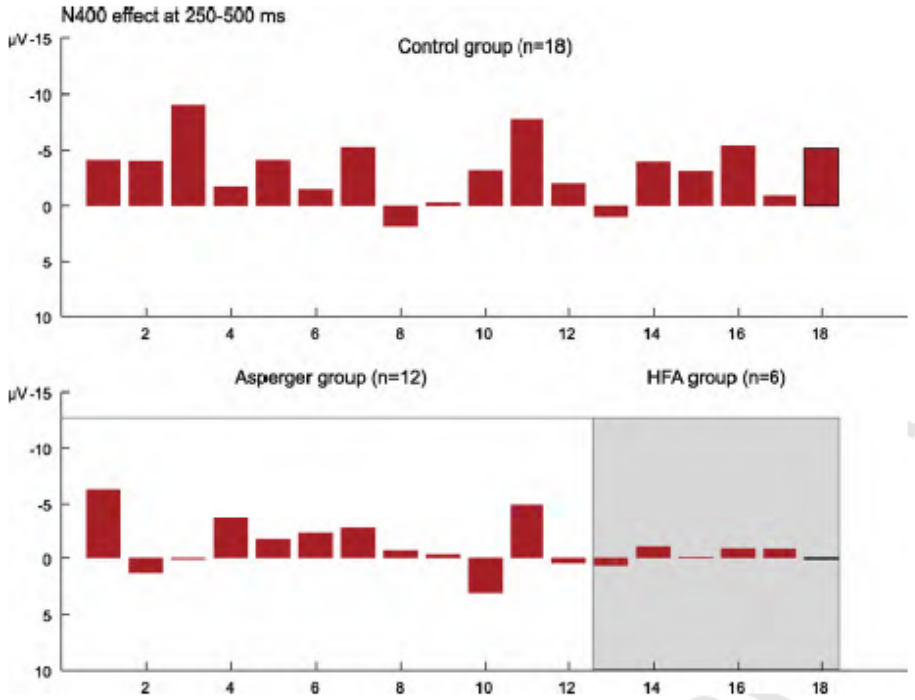
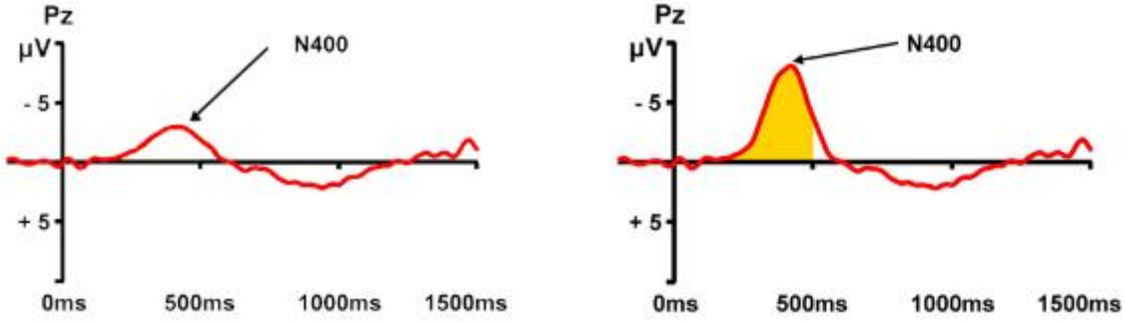


Fig. 4. Mean amplitude of the N400 effect (incongruent condition minus congruent condition in latency window 250–500 ms averaged over FCz, Cz, and Pz) for each individual participant. Negative values are plotted upward.

Context and predicting language and communication

The brain makes quick guesses about what someone is going to say or show, based on context

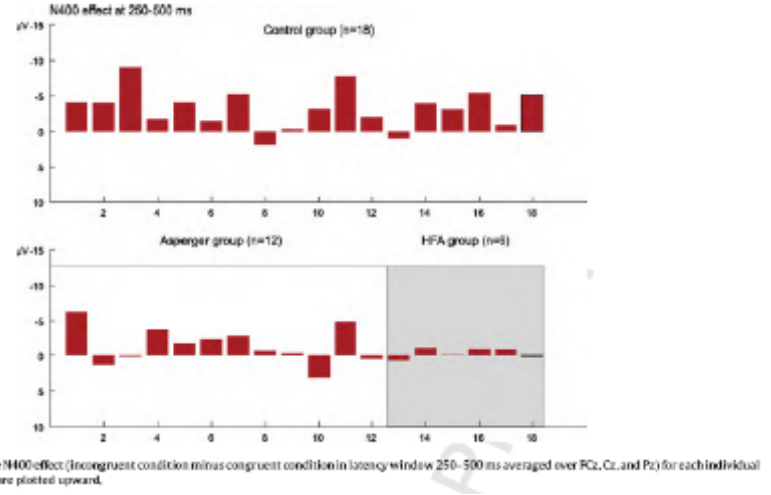
- N400
- **Lexical priming**



Jan eet friet met mayonaise

Jan eet friet met schoen.

- N400 lower in people with autism (Pijnacker e.a., 2010)



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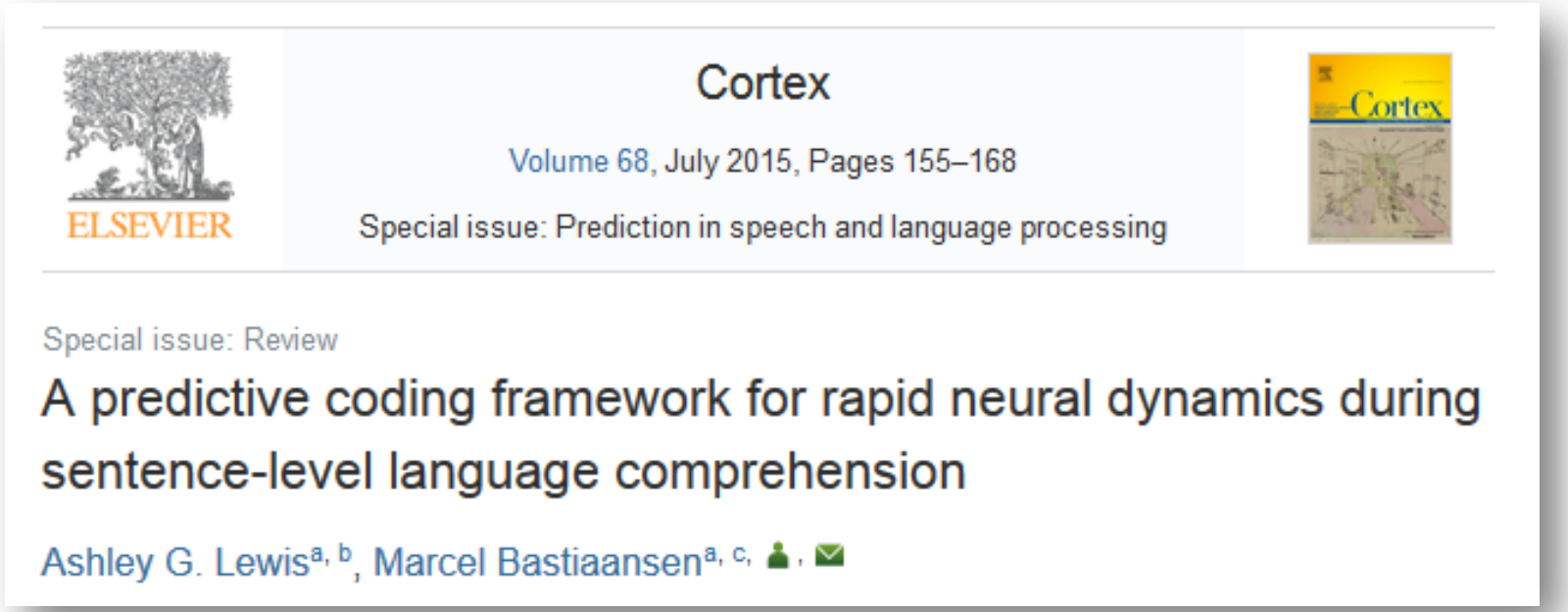
Special issue Cortex, July 2015



Cortex

Volume 68, July 2015, Pages 155–168

Special issue: Prediction in speech and language processing

Special issue: Review

A predictive coding framework for rapid neural dynamics during sentence-level language comprehension

Ashley G. Lewis[a, b], Marcel Bastiaansen[a, c]

Understanding language = predicting language!

If the person cannot predict, then slow down your communication

Context and predicting communication

The brain makes quick guesses about what someone is going to say or show, **based on context**

Contextual
lexical priming

Context

- Does not only help us to predict and recognize communication
- It also helps us to avoid all the confusion of the ever changing meanings of what people say or show us

Context and communication

Nothing has an absolute meaning, remember?

So, whatever we use to communicate…

words

gestures

pictures

objects

…their meaning is never fixed, but depending on the context

When the day schedule says…

Visual, but ambiguous and confusing

Context and communication

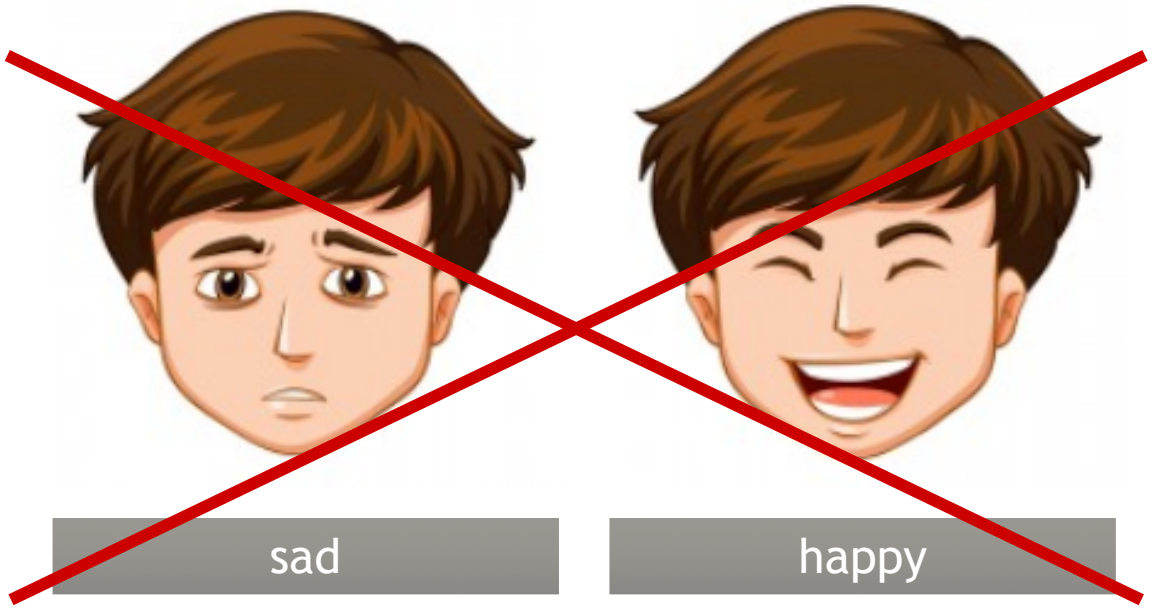
What is difficult for people with ASD, is to find out what something (a word, a sentence, a gesture, a picture etc.) means ***in this context***

So, give time to process and 'push the context button'

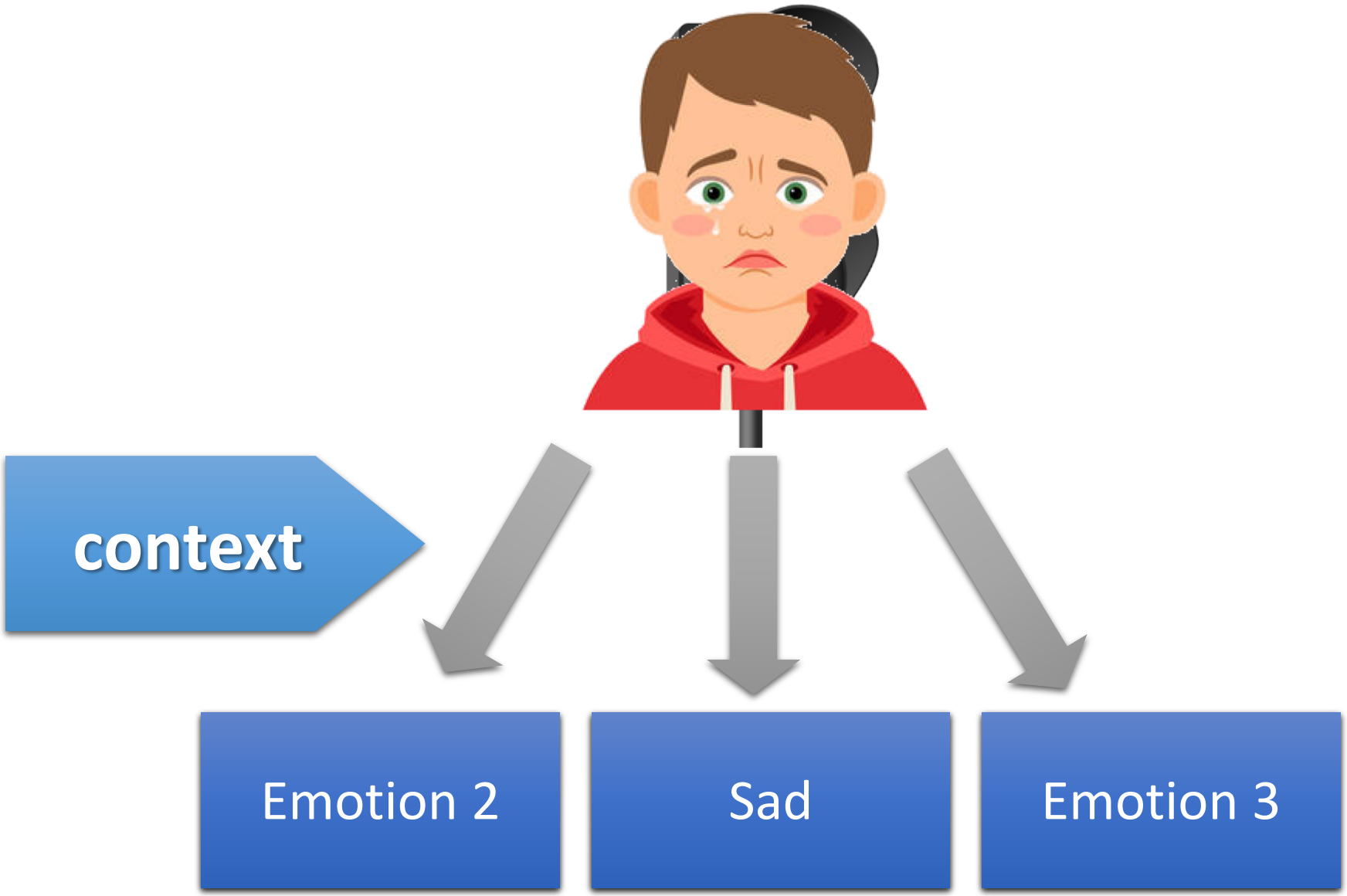
Context and emotion recognition

Relation facial expression –emotion is not fixed

We never see facial expressions out of context



It’s a relative world, remember?



Nothing has an absolute meaning!

Facial expressions are inherently ambiguous!

emotion review

Emotion Review
Vol. 5, No. 1 (January 2013) 60–65

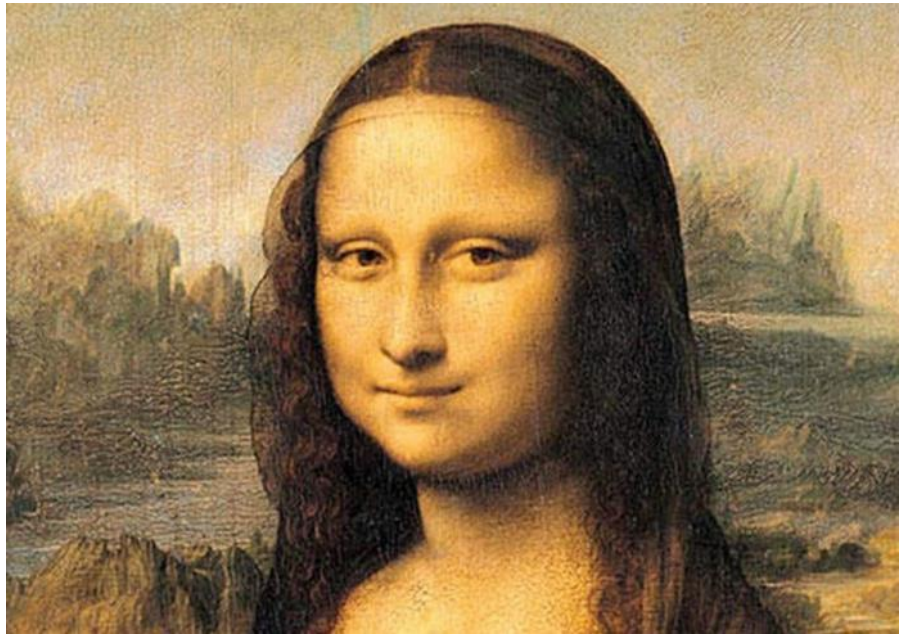
ISSN 1754-0739
DOI: 10.1177/1754073912451331
er.sagepub.com

Inherently Ambiguous: Facial Expressions of Emotions, in Context

Ran R. Hassin
Department of Psychology, Hebrew University, Israel
The Center for the Study of Rationality, Hebrew University, Israel

Hillel Aviezer
Department of Psychology, Hebrew University, Israel
Department of Psychology, Princeton University, USA

Shlomo Bentin
Department of Psychology, Hebrew University, Israel
Center for Neural Computation, Hebrew University, Israel



Again: context…

aps ASSOCIATION FOR PSYCHOLOGICAL SCIENCE

Current Directions in Psychological Science
20(5) 286–290

DOI: 10.1177/0963721411422522
http://cdps.sagepub.com
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Context in Emotion Perception

Lisa Feldman Barrett[1,2], Batja Mesquita[3], and Maria Gendron[1]
[1]Department of Psychology, Boston College, [2]Department of Psychiatry and the Martinos Center for Biomedical Imaging, Massachusetts General Hospital/Harvard Medical School, and [3]Department of Psychology, University of Leuven, Belgium

Abstract

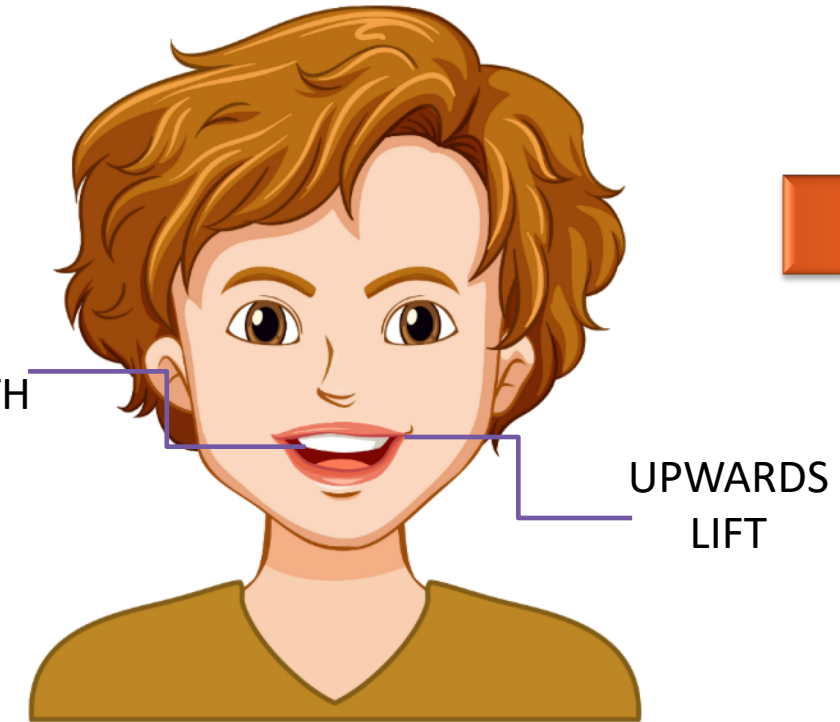
We review recent work demonstrating consistent context effects during emotion perception. Visual scenes, voices, bodies, other faces, cultural orientation, and even words shape how emotion is perceived in a face, calling into question the still-common assumption that the emotional state of a person is written on and can be read from the face like words on a page. Incorporating context during emotion perception appears to be routine, efficient, and, to some degree, automatic. This evidence challenges the standard view of emotion perception represented in psychology texts, in the cognitive neuroscience literature, and in the popular media and points to a necessary change in the basic paradigm used in the scientific study of emotion perception.

That’s how we thought it was…

Computer metaphor

Reading emotions FROM faces

STIMULUS

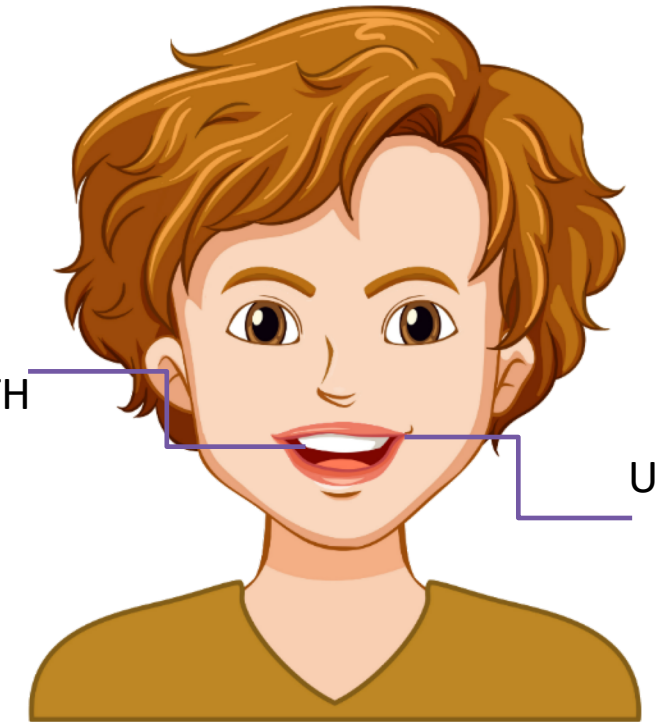


Now we know it goes like this:

Predictive mind

Reading emotions INTO faces

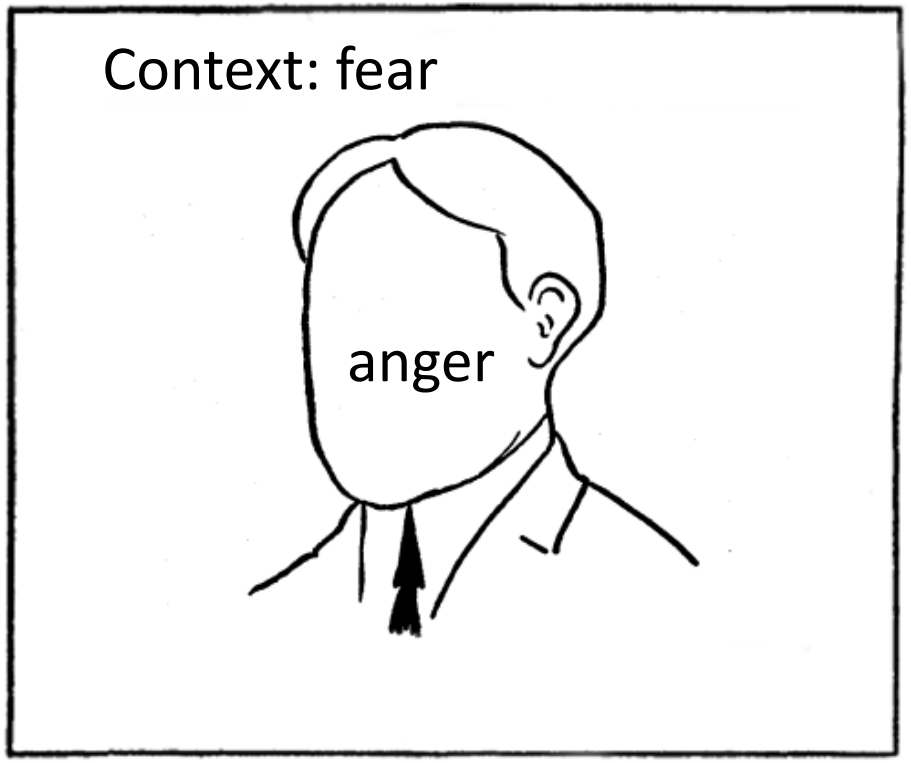
STIMULUS



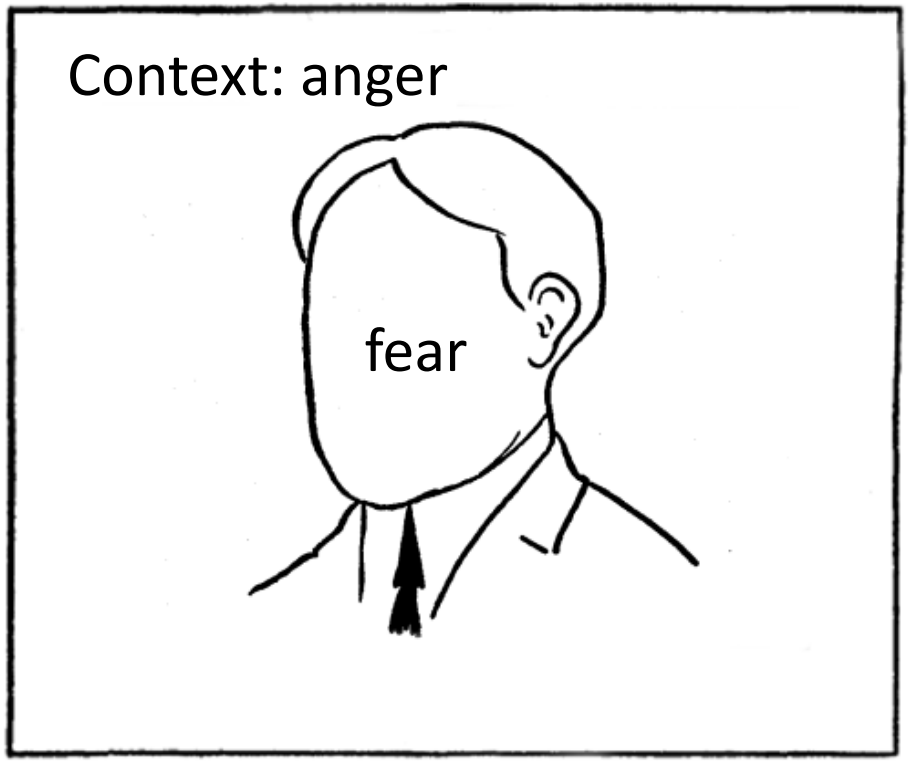
OPEN MOUTH

UPWARDS LIFT

Context more important than the face!



fear

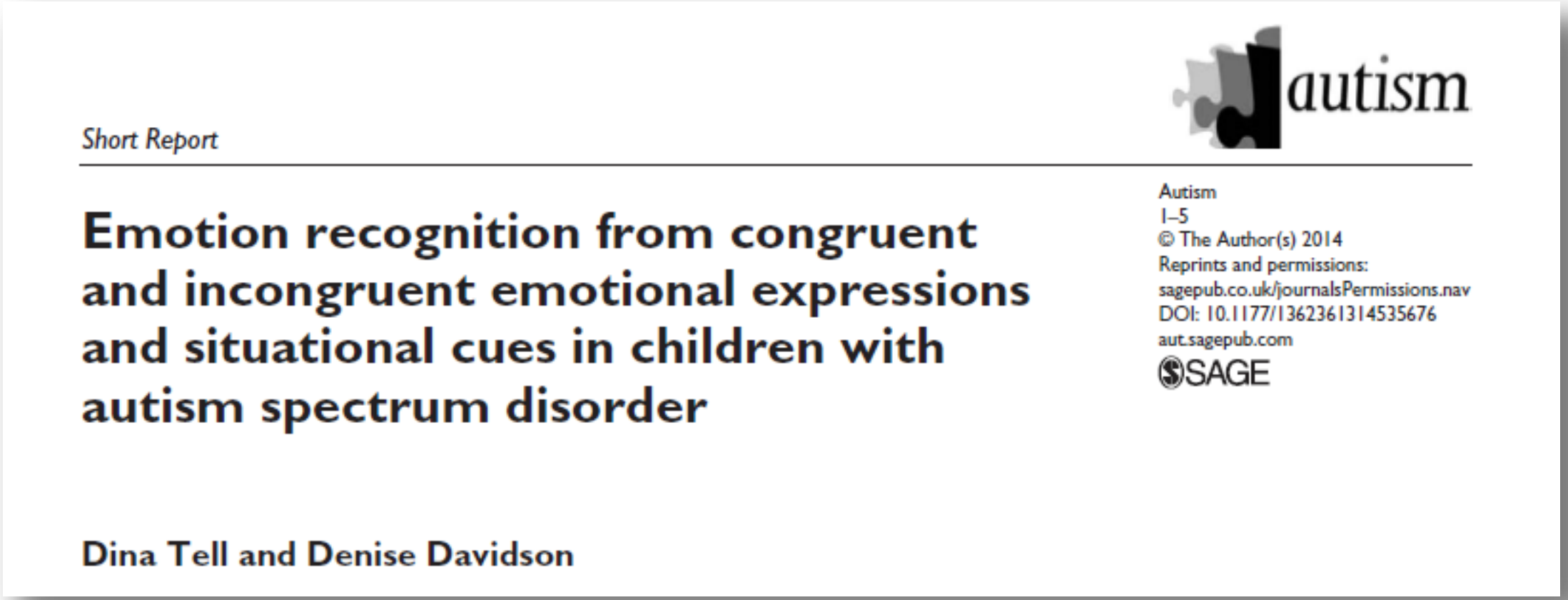


anger

Righart & De Gelder (2008)

Context more important than the face!

But people with autism rely on the face, not the context!



Short Report

autism

Emotion recognition from congruent and incongruent emotional expressions and situational cues in children with autism spectrum disorder

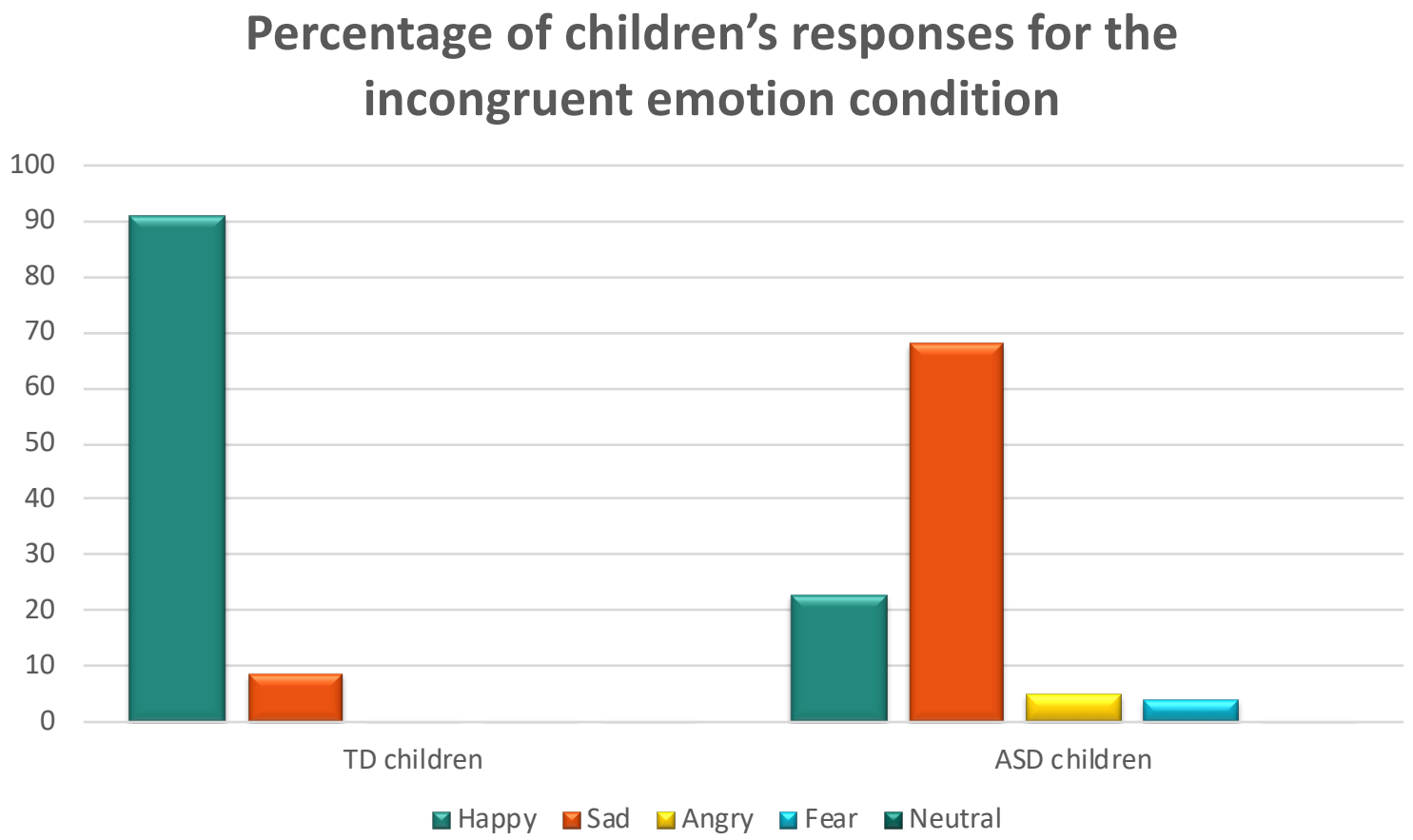
Autism
1–5

DOI: 10.1177/1362361314535676
aut.sagepub.com
SAGE

Dina Tell and Denise Davidson

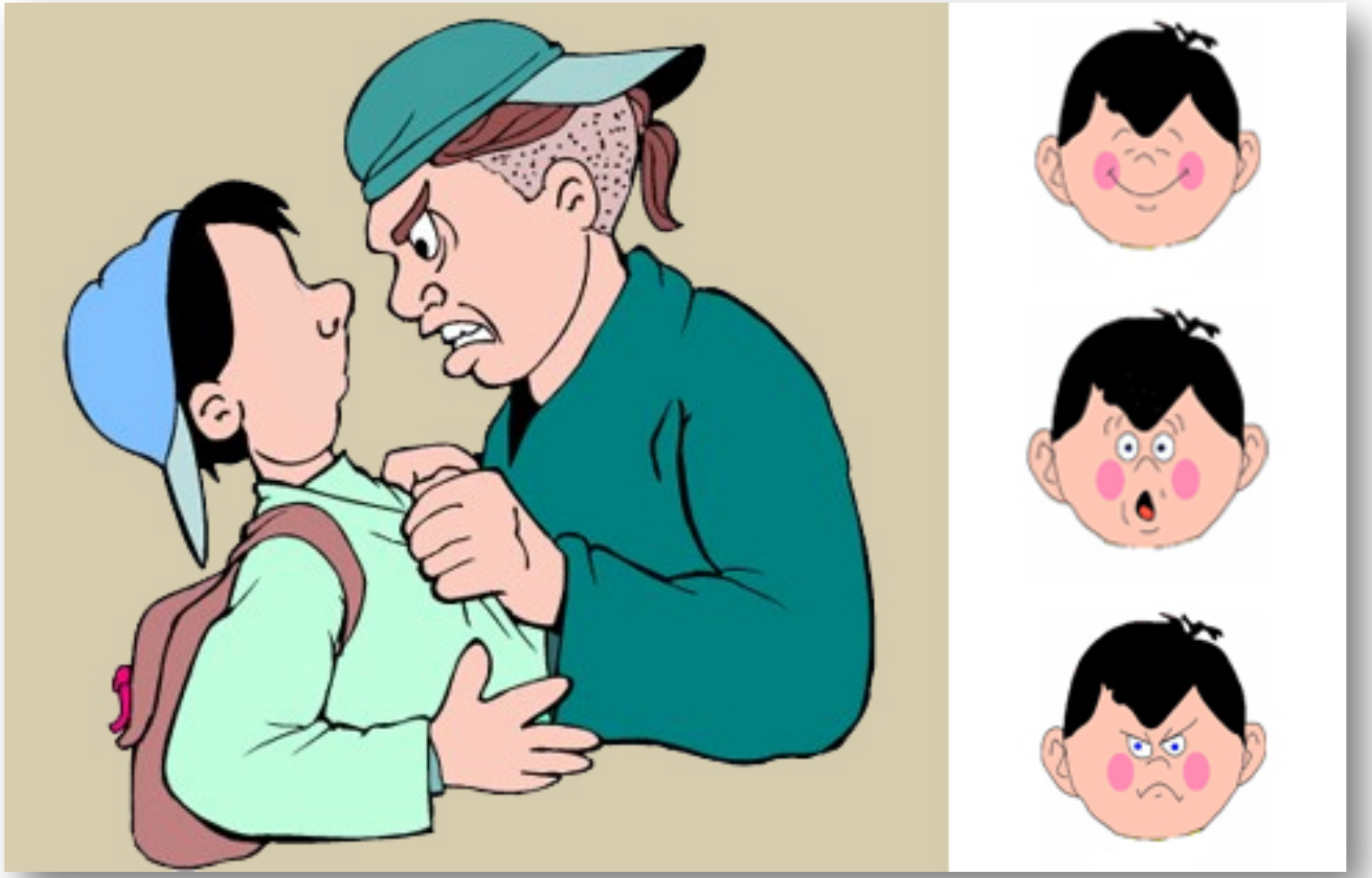
Context more important than the face!

But people with autism rely on the face, not the context!



Tell & Davidson (2014)

Link emotions to context



And it's not just about emotion recognition!

doi:10.1093/brain/aww287 BRAIN 2017: 140; 235–246 | 235

BRAIN
A JOURNAL OF NEUROLOGY

Disrupted prediction errors index social deficits in autism spectrum disorder

Joshua H. Balsters,[1,2] Matthew A. J. Apps,[3] Dimitris Bolis,[1] Rea Lehner,[1] Louise Gallagher[4] and Nicole Wenderoth[1,5]

Social deficits are a core symptom of autism spectrum disorder; however, the perturbed neural mechanisms underpinning these deficits remain unclear. It has been suggested that social prediction errors—coding discrepancies between the predicted and actual outcome of another's decisions—might play a crucial role in processing social information. While the gyral surface of the anterior cingulate cortex signalled social prediction errors in typically developing individuals, this crucial social signal was altered in individuals with autism spectrum disorder. Importantly, the degree to which social prediction error signalling was aberrant correlated with diagnostic measures of social deficits. Effective connectivity analyses further revealed that, in typically developing individuals but not in autism spectrum disorder, the magnitude of social prediction errors was driven by input from the ventromedial prefrontal cortex. These data provide a novel insight into the neural substrates underlying autism spectrum disorder social symptom severity, and further research into the gyral surface of the anterior cingulate cortex and ventromedial prefrontal cortex could provide more targeted therapies to help ameliorate social deficits in autism spectrum disorder.

Predictive coding explains social deficits in autism

PHILOSOPHICAL TRANSACTIONS B

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Research

Cite this article: von der Lühe T, Manera V, Barisic I, Becchio C, Vogeley K, Schilbach L. 2016 Interpersonal predictive coding, not action perception, is impaired in autism. *Phil. Trans. R. Soc. B* **371**: 20150373. http://dx.doi.org/10.1098/rstb.2015.0373

Interpersonal predictive coding, not action perception, is impaired in autism

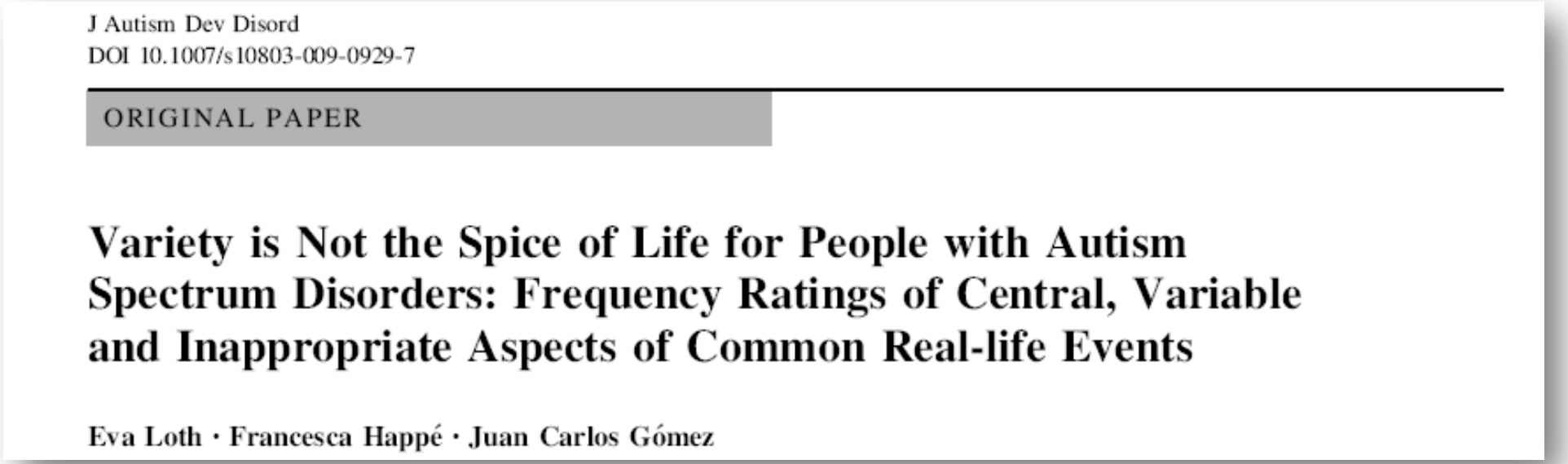
T. von der Lühe[1,†], V. Manera[2,†], I. Barisic[3], C. Becchio[4,5], K. Vogeley[1,6] and L. Schilbach[1,7]

[1]Department of Psychiatry, University Hospital Cologne, 50937 Cologne, Germany
[2]CoBtek Laboratory, University of Nice Sophia Antipolis, 06103 Nice, France
[3]Cognitive Science Department, ETH Zürich, 8092 Zürich, Switzerland
[4]C'MON Cognition Motion and Neuroscience Unit, Fondazione Istituto Italiano di Tecnologia, Genova, Italy
[5]Department of Psychology, University of Turin, Turin, Italy
[6]Research Centre Juelich, Institute of Neuroscience and Medicine (INM-1), 52428 Juelich, Germany
[7]Max Planck Institute of Psychiatry, 80804 Munich, Germany

LS, 0000-0001-5547-8309

This study was conducted to examine interpersonal predictive coding in individuals with high-functioning autism (HFA). Healthy and HFA partici-

Loth a.o. (2010)



J Autism Dev Disord
DOI 10.1007/s10803-009-0929-7

ORIGINAL PAPER

Variety is Not the Spice of Life for People with Autism Spectrum Disorders: Frequency Ratings of Central, Variable and Inappropriate Aspects of Common Real-life Events

Eva Loth · Francesca Happé · Juan Carlos Gómez

Contextual variations are often seen as central or as fixed rules, even in those who pass high level ToM tests

e.g. having a dessert when going to a restaurant

Context and social competence

- The biggest problem in ASD is not social skills (knowing ***what*** and ***how*** to do)

- The biggest problem in ASD is knowing ***where*** and ***when*** to do it and where and when **not**

Social competence requires contextual sensitivity

Contextualized teaching

- Do not use decontextualized materials
- Do not teach ‘skills’ but start from contexts
- Link behaviours always to contexts

Starting a conversation

Teaching: traditional approach: generic skills

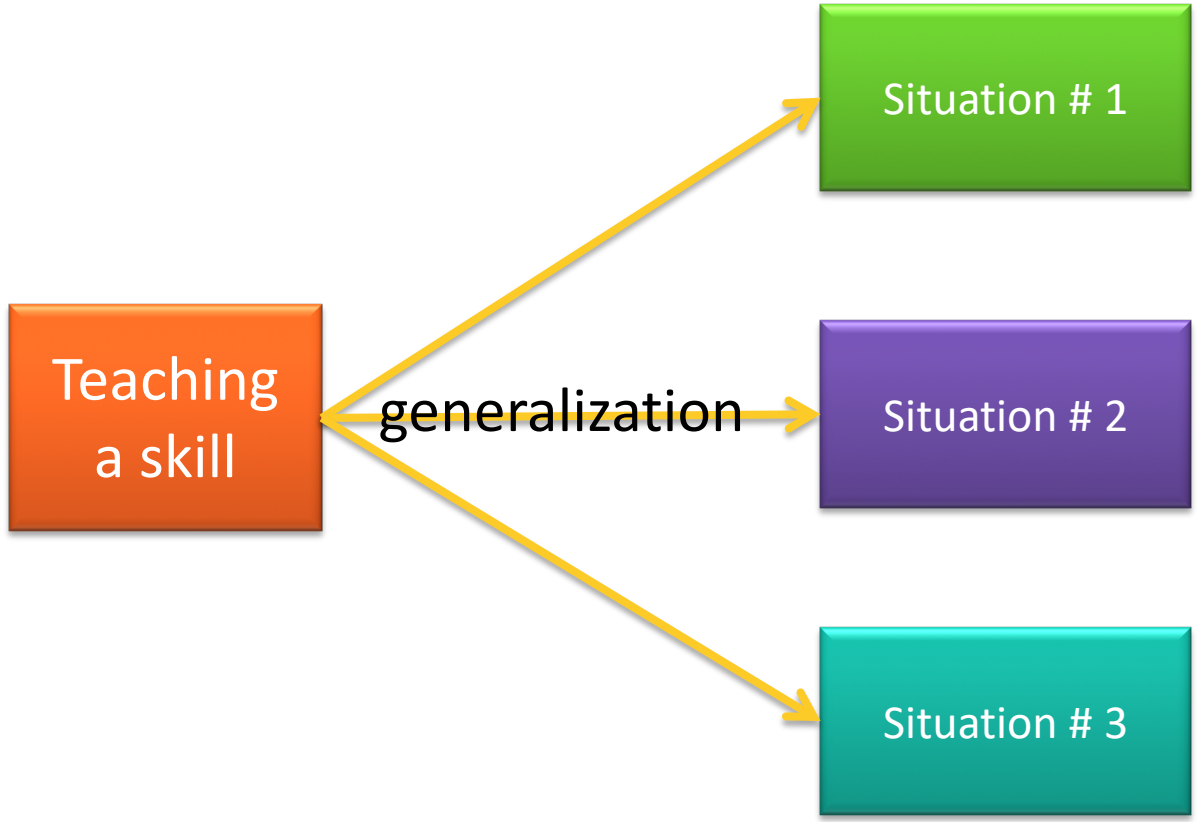
Starting a conversation

Step 1: Think of what you'd like to say

Step 2: Make sure you have the other person's attention. Look at the person.

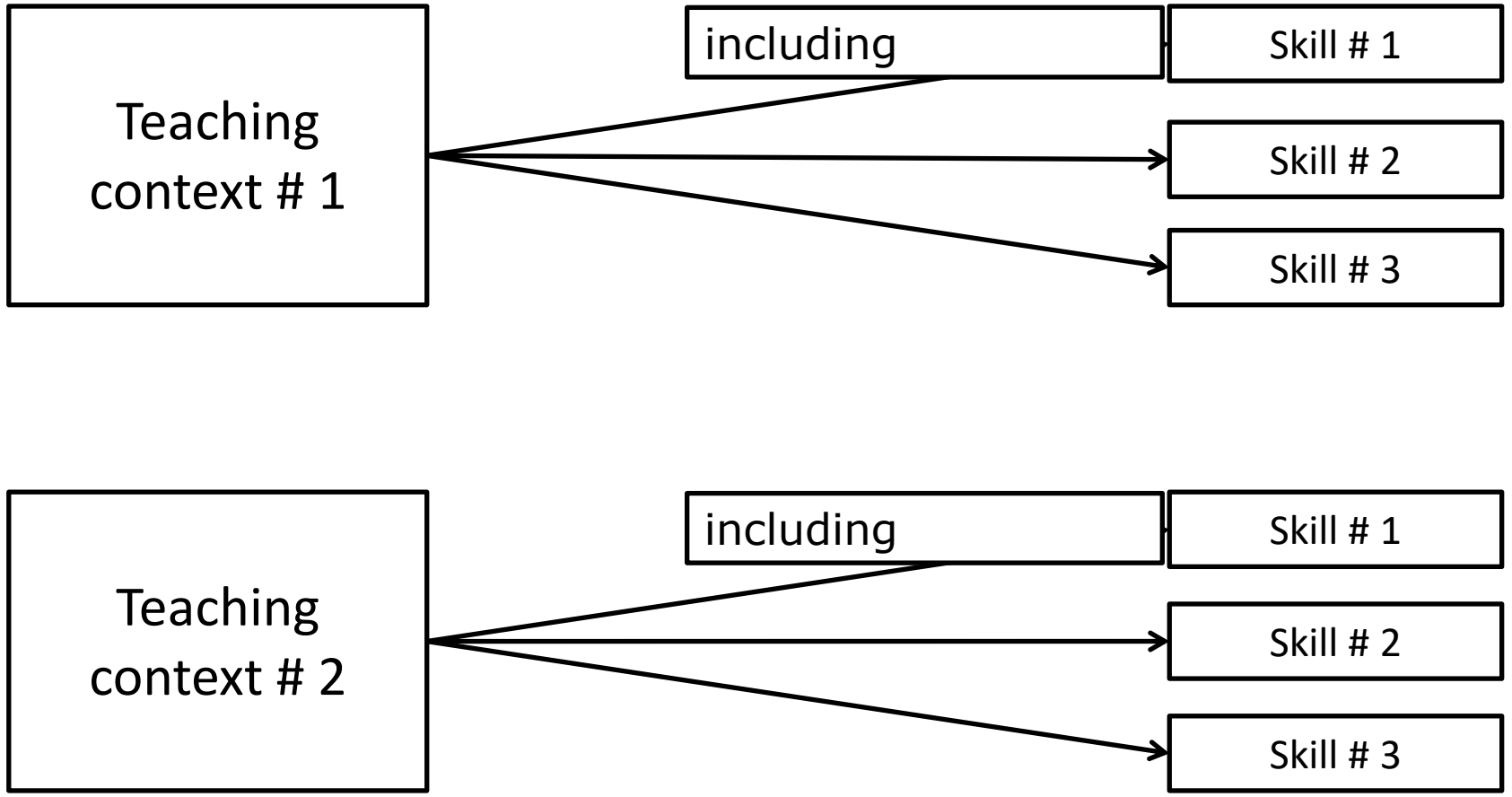
Step 3: Ask a question or make a comment.

Step 4: Listen carefully while the other person responds.



Contextualized teaching

Does not start from skills but from contexts



Contextualized teaching

Teaching and clarifying context:

- ✓ What can happen in that context?
- ✓ What can you do in that context?
- ✓ What can you say in that context?

The Next Generation of Social Stories™:

- History & definition
- New Focus on Social Context
- Implications for Future Social Stories

Slide from Carol Gray's presentation

Contextualized scripts

Welcoming someone at your home:

- *When the person wears a coat,*
  you ask "May I take your coat?".
- *If the person says "no",*
  invite him/her to come further in.
- *If the person says "yes",*
  wait until he/she gives you the coat
  and hang it on the coat rack.
  If you don't have a coat rack ,
  hang the coat carefully over a chair.

Pushing the context button helps to ‘predict’ an uncertain world with all its ever changing meanings

Hopefully you could put all the information *in context*…

AUTISM in CONTEXT

from neurodiversity to neuroharmony

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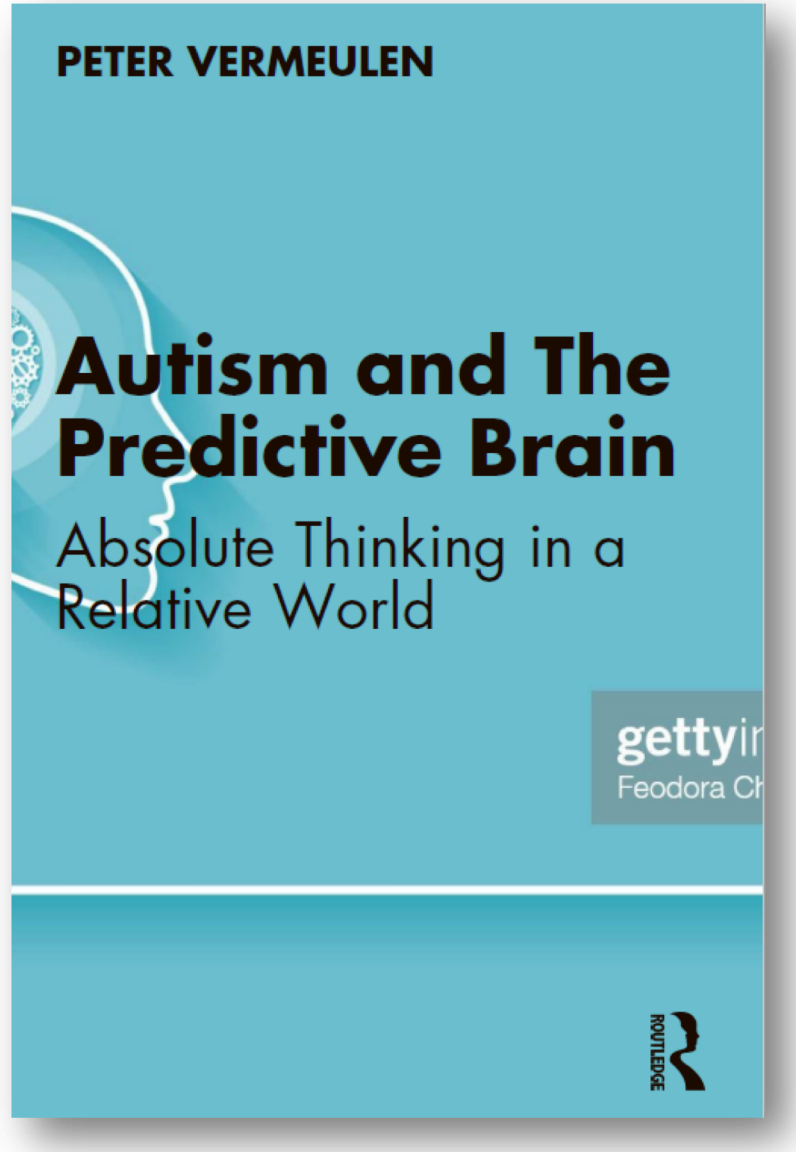

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