

I learned French, but then unlearned it when my TV channel subscription was cancelled: Pathways to acquiring language in non-interactive ways

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There are increasing reports from caregivers and practitioners that some autistic children spontaneously acquire a language which is not spoken around them, and do so exclusively through what can be characterized as passive exposure to screens (internet, TV, cartoons). However, such “Non-Interactive Bilingualism” (NIB) and spontaneous acquisition of another language has been documented only in a few case-studies (Vulchanova et al., 2012a; 2012b; Kissine et al., 2019; Riedel et al., 2020; Smith & Tsimpli, 1995; Zhukova, 2021) and one survey-based report (Gagnon, Ostrolenk & Mottron, 2025). The implications of this phenomenon for understanding the factors and mechanisms in language learning in autism remain unclear. Indeed, NIB challenges the assumption that live human-to-human interaction plays a determining role for language acquisition. It may thus be the case that children with autism may be relying on other factors and mechanisms by exploring alternative routes into language (Vulchanova, 2015).

Research in the cognitive and linguistic profiles of highly-verbal children and young adults with autism and language talent evidences very high overall intelligence, as measured on standard IQ tests, yet across subtests, this profile is characterized by peaks and troughs (Vulchanova et al., 2012a; 2012b). Surprisingly, despite the talent for learning languages, the cognitive strengths of such individuals are more pronounced in the non-verbal domains, such as in matrix reasoning, spatial arrangements, and tasks involving number processing, against pronounced weaknesses in language comprehension and pragmatic aspects of language (Vulchanova et al., 2015; Chahboun et al., 2016; Micai et al., 2019; 2020). Two types of evidence in extant research provide important clues here. There are systematic findings concerning language abilities which scaffold each other in neurotypical early language development, but dissociate in autistic children, e.g., a strength in phonological aspects of words (including enhanced pitch perception, Eigsti & Fein, 2013) contra pronounced problems in semantics (Norbury et al., 2010) in early word learning (Vulchanova, Vulchanov & Allen, 2023; Shaeffer et al., 2023), and the well-attested discrepancy between decoding skills and reading comprehension (Ostrolenk et al., 2024). In addition, we find dissociations between cognitive mechanisms supposed to support the acquisition of specific aspects of language and language ability, such as between spatial cognition and spatial language (Larson et al., 2024; 2025) or deictic gesture production and language ability (Ramos-Cabo, Vulchanov & Vulchanova, 2020; Ramos-Cabo et al., 2022). Further emerging evidence suggests that autistic infants and toddlers do not benefit from the shape bias as a cue in early word learning, but still present with adequate vocabulary size. These findings suggest a disconnect in early cognitive development, whereby skills which usually predate and support each other in neuro-typical development develop out of sync in autism, yet leading to successful language outcomes, despite following atypical trajectories. We discuss this evidence and its implications for the observed tendency for non-interactive language learning in children with autism.