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Sommario	<p>Interacting with the external environment is an inherently multisensory experience. Therefore, understanding how unisensory deprivations occurring early in life affect this interaction has always been a hot topic of research. In this thesis I aim to contribute to this prolific debate by further investigating the effects on behavior exerted by early-acquired bilateral deafness. In the past decades many studies have extensively investigated this topic, focusing mainly on explaining the changes occurring within the visual modality of deaf people, ultimately aiming at understanding to what extent the intuitive assumption that deaf adults 'see better' than hearing controls is really true. This approach proved highly informative, yet many fundamental aspects of behavior remained largely overlooked. The aim of this thesis was to identify these missing aspects and try to address them as systematically as possible. In particular I focused on four critical domains: (i) the investigation of the behavioral reorganization that occurs within the tactile modality of deaf adults (Chapter 2, Study 1; Study 2); (ii) the possible modifications of the interactions between two intact sensory systems (i.e., vision and touch) as a consequence of auditory deprivation (Chapter 3); (iii) the finer-grained definition of which mechanisms of visual attention are modified by bilateral deafness (Chapter 4, Study 1; Chapter 5); (iv) the further understanding of the</p>

role of extensive visual training in driving the behavioral improvements reported in the deaf population compared to hearing controls (Chapter 2, Study 3; Chapter 4, Study 1; Study 2; Chapter 5). This set of results highlight that deafness-related plasticity exerts multifaceted effects on behavior, which extend selectively to certain functions but not to others, and that even produced selective aspects of impaired behaviors. Importantly, these data also provide initial evidence that vision and touch might to a certain extent, reorganize independently from one another as a consequence of early bilateral deafness and that also the way they interact with each other shows some modified aspects. Finally, the majority of the behavioral modifications I documented in this thesis depended from deafness per se and was not ascribable to training-related effects. Unexpectedly but very interestingly, what clearly emerged from this set of results is the remarkable flexibility of which are capable the reorganized sensory systems, and in particular the reorganized visual system of deaf adults.

Localizzazioni e accesso

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