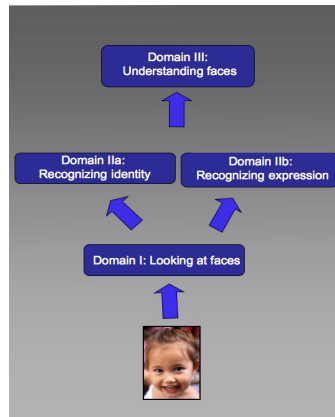


The LFI! Hierarchical Model of Face Processing



Studies from developmental and cognitive psychology suggest that everyday face processing can be broken down into three processing stages or domains. The *LFI!* model breaks down face processing into three sequential, inter-connected skill domains. The individual domains are hierarchically ordered such that the successful execution of one domain ability is contingent upon the successful completion of preceding domains. This model adopts a “bottom-up” approach where face perception skills are assumed to provide the foundation for development of social and emotional abilities.

According to this model, facial processing begins with the ability to differentially attend to faces in the visual environment (Domain I). Domain I skills stress the intrinsic importance of faces and fosters the child’s ability to rapidly attend to faces. Once attention is directed to the face, it becomes possible to obtain information about the person’s identity and their emotional state (Domain II). Domain II skills emphasize the ability to recognize a person’s identity (Domain IIa) and emotional expression (Domain IIb) and to generalize these skills across changes in the visual image. Finally, identity and expression are key components for understanding facial cues in social contexts (Domain III). Domain III skills target the ability to take facial information and apply it to the communication of thoughts and feelings among various social settings. It is in this domain that the child fosters the ability to interpret and understand the meaning of faces in real world situations.

While each processing domain has its own goals, functional characteristics, and implications for remediation, the hierarchical inter-connected nature of this model also predicts that impairment in one domain will have downstream effects on other processing domains. For example, damage to the face selective mechanisms in Domain I should impede the Domain II ability to recognize facial identity or expression. Therefore, if a child shows impairment at the level of Domain I (attending to a face), the ability to identify appropriate emotions embedded in social contexts (Domain III) will also be impaired.

The hierarchical *Let's Face It!* model provides a viable framework for addressing the range of face processing deficits related to ASD. We hypothesize that *LFI!* will improve basic perceptual skills in face processing, leading to an enhancement of social-emotional function in children with special needs.