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Dr. Bishop et al. Reply:

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In “The Need for a Clinically Useful Schema of Social Communication,” Blank *et al.* present an observation and coding method (The Initiating, Responding, Expectancy Violations (IREV) schema) for identifying “expectancy violations (EVs),” which may signal clinically significant departures from normal social communication behavior (e.g., in individuals with autism spectrum disorder [ASD]).¹ The authors point out that “historically, observation of a patient’s (social communication) has not been part of the routine psychiatric mental status exam,” and argue that this is an important missed opportunity for clinicians. Several direct observation methods exist for identifying and/or monitoring changes in social communication deficits associated with ASD.² Despite their established diagnostic validity, it remains true that these measures used *in isolation* will result in a relatively high rate of “false positives”—usually comprised of children who are better described with other diagnoses (e.g., intellectual disability, language disorder, ADHD).² This underscores the critical importance of context when interpreting observed social communication deficits.

By defining social communication as the “appropriate use and modulation of one’s own behavior during a social interaction” (p.555), we conceptualize social communication *ability* as the extent to which an individual can and does call upon skills necessary for successfully navigating the social world. The skills required for a given social interaction originate from

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multiple developmental domains (Figure 1; see also Rose- Krasnor, 1997);³ deficits in “basic” skills are a hallmark of ASD, and lead to pervasive social communication impairments, but deficits in other domains may also contribute to observed impairments.⁴ Within our definition, social communication draws heavily upon basic skills that initially emerge as pre-intentional behavior (e.g., eye gaze), and become intentional in later infancy.⁵ Therefore, unlike the IREV schema, we do not stipulate that all of the skills modulated as part of social communication behavior must be intentional. Social communication requires “reading” the social situation (receptive skills) and calling upon the (expressive) skills needed to respond appropriately. However, if the requisite skills are not available, or the individual’s ability to express them is limited, social communication impairments may manifest.⁶

Like established observation methods, a limitation of the proposed IREV schema is that it does not differentiate the myriad behavioral domains which might promote or impair social communication ability (as illustrated in Figure 1). While clinicians may be able to detect an EV “regardless of developmental age and language level” (p. 2),¹ the *implications* of such an observation still depend heavily on developmental and language expectations, as well as the individual’s specific profile of strengths and weaknesses in other domains.⁷ As we seek to build integrative models of social communication, it will be important to disentangle developmental cascades that lead to observed deficits. In psychometric analyses, we have observed that ASD diagnostic assessment items pertaining to “basic social communication” behaviors in older/verbal children, such as nonverbal communication and affective reciprocity, tend to separate from items relating to the general quality of the interaction.⁴ However, this separation does not seem to occur among non-verbal or minimally-verbal children, where all items seem to measure a unidimensional social communication factor (S. Zheng *et al.*, Unpublished data, April 2020). Perhaps a construct shift occurs, such that the structure and meaning of social communication changes as children develop and are exposed to different social contexts.⁸ As the behaviors which must be recruited and modulated to successfully engage in social communication become more numerous and varied across development, so too does the number of potential avenues to an observed deficit.

We thank Blank *et al.* for spurring discussion about shared conceptualizations of social communication. The typical development of social communication skills has been well-described in developmental psychology, especially among infants and toddlers.⁸ However, because ASD dominates the current discussion of social communication, it is often defined in opposition to impairments associated with ASD. Given that social communication impairments are not specific to ASD, there is an impetus to further refine methods for quantification of ability and impairment. Moving forward, the field will benefit from additional coordinated efforts to simultaneously track typical and atypical processes involved in social communication behavior across the lifespan (see also Beauchamp and Anderson, 2010).⁹ This work will also enhance efforts to link specific types of social communication deficits/abilities to neurobiological and genetic underpinnings.

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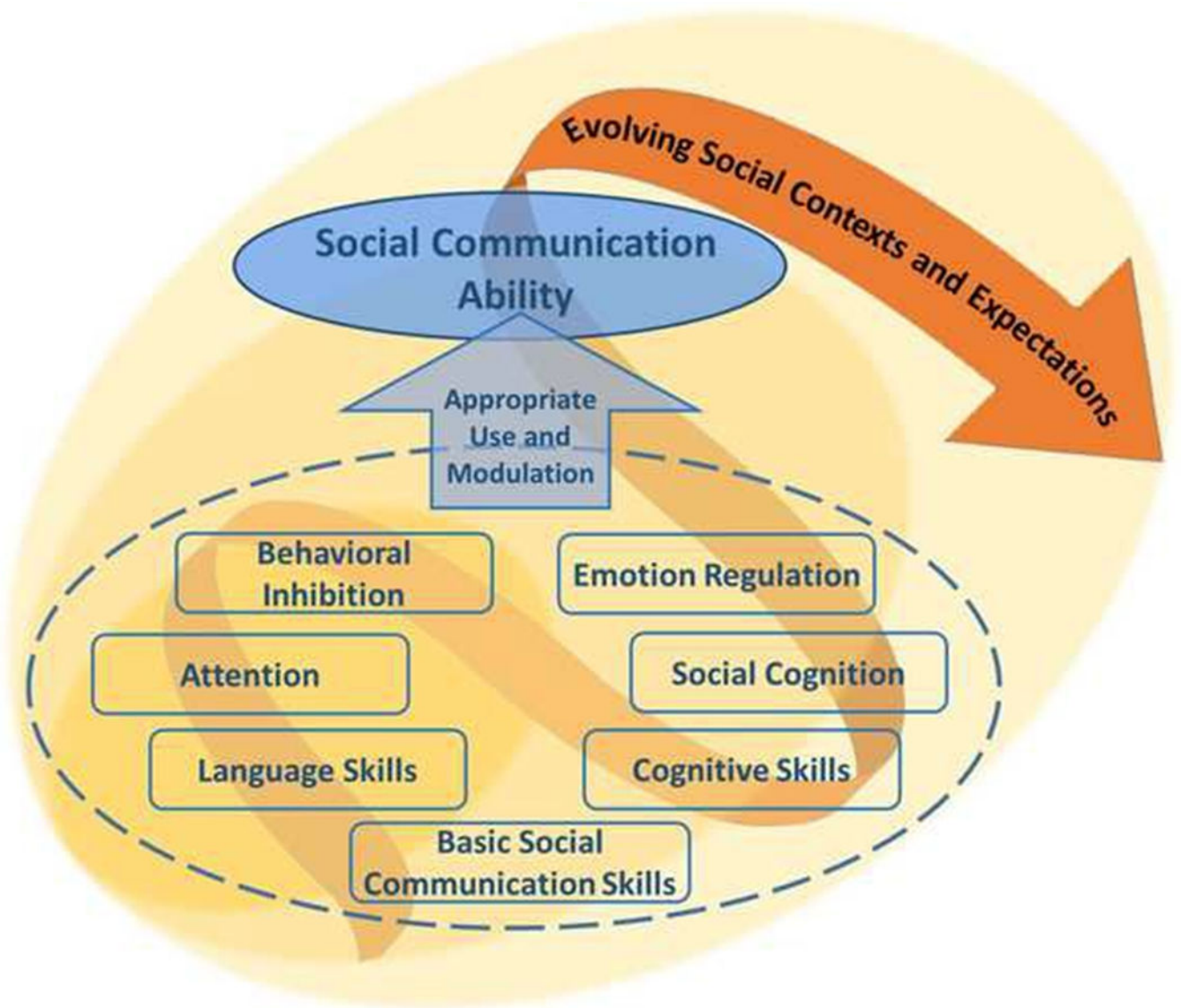


Figure 1. Observed Social Communication Ability is Dependent on Appropriate Use and Modulation of Behaviors from Multiple Domains