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Effect of Maternal Sensitivity on Language Acquisition of Multiples

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Introduction

In recent years, the occurrence of multiples birth has been on the rise, having increased tenfold since the 1980s. However, even though multiple birth has been on the rise, there are still many risks associated; specifically, language acquisition has been observed to be delayed or underdeveloped in multiples. Maternal sensitivity, a key component to a child's development, has been thought to be associated with language development. The purpose of this study was to examine language acquisition and development in multiple birth children compared to singleton children in order to examine how decreased maternal sensitivity amongst mothers of multiples compared to mothers of singletons affects language acquisition skills in children.

How does language development differ between singletons and multiples?

McMahon and Dodd used a variety of scales are used to measure language skills in children during controlled adult-child interactions to compare language skills of singletons and triplets¹. Results are shown below:

Measures	Triplets	Twins	Singletons
MLU (Mean Length of Utterance)	2.39 (1.01)	3.02 (1.26)	3.81 (1.04)
PR (Phonemic Repertoire)	17.08 (2.61)	16.50 (4.39)	18.37 (2.75)
DCA (Dore's Conversational Acts)	9.73 (2.68)	11.47 (2.08)	12.70 (2.15)

The results indicated delayed development of pragmatic skills as well as high incidence of speech difficulties in multiples. This can lead to:

- Delayed development of reading and writing skills leading to difficulties in school
- Negative impact on socialization with peers necessary to build solid behavioral and social foundations

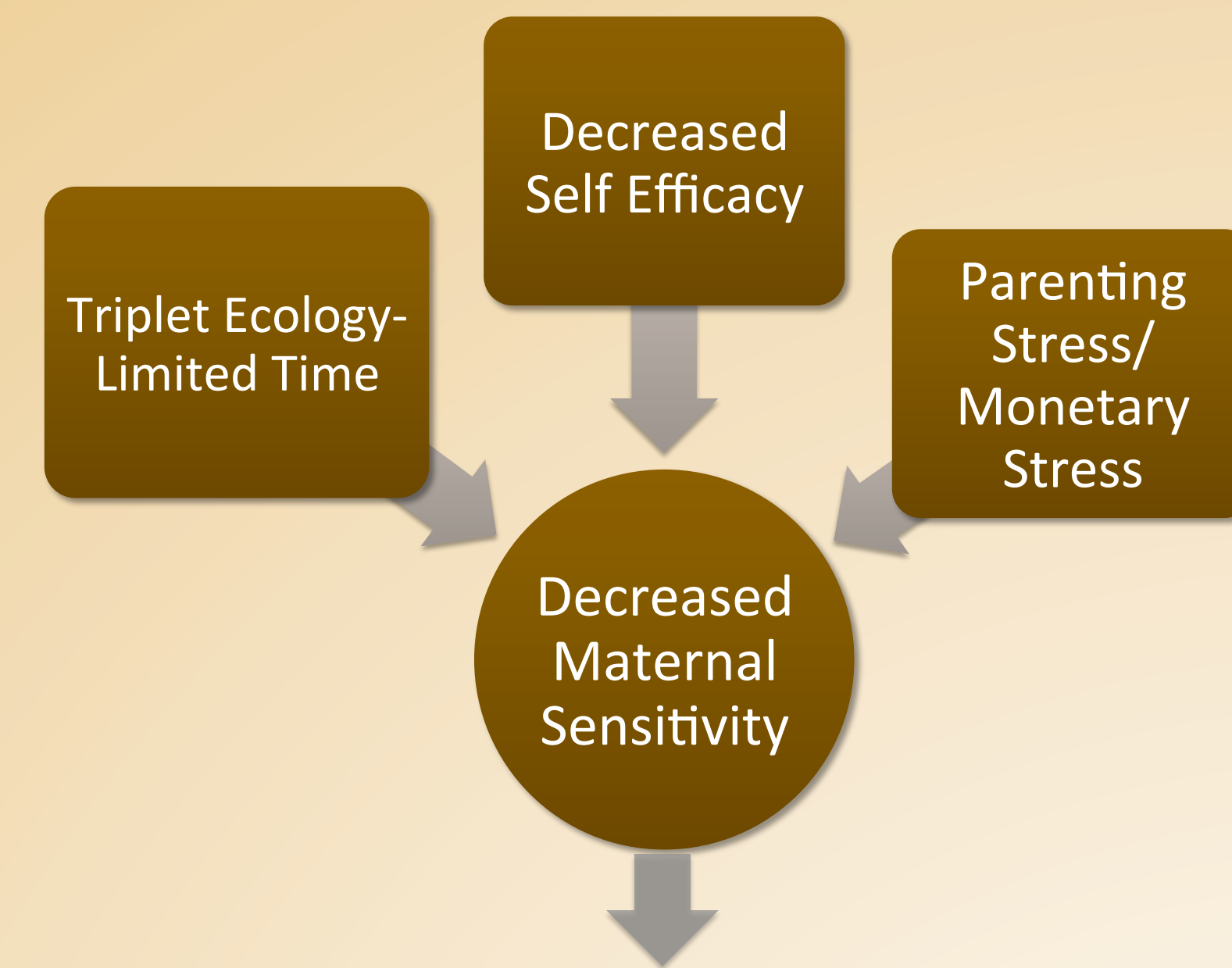
Importance of Maternal Sensitivity

Exclusive Parenting— refers to a parent's ability to give their child their full attention and address their unique needs to best foster their own distinctive mental development, including language development ²

Joint Attention Focus— an aspect of maternal verbal sensitivity in which the parent displays warm and sensitive attitudes in response to children's activities in order to express interest and acceptance³

Self-Efficacy — important for mothers so they will develop an attachment with infant and give them attention and warmth, all of which is important to developing language since children need a sensitive partner to interact and practice communicating with⁴

Trends in Maternal Sensitivity



	Singletons	Twins	Triplets
Newborns	.05	.01	-.44
3 months	.24	.04	-.30
6 months	.17	-.04	-.48
12 months	.07	.03	-.45

Correlations between Maternal Sensitivity and Language Acquisition in Multiples

Eidelman et al. larger effect on language skills later on, around 24-36 months in children. However, this makes sense since this is around the age children develop more complex language.²

Baumwell et al. found nine-month verbal sensitivity predicted 13-month child language comprehension.⁵

Mothers of multiples tend to talk to children as a unit rather than individuals. However, since researchers found that talked directed to child individuals was positively related to expressive language ability and multiple ecology often exhibits a less conversationally linguistic environment, children exhibited delayed speech. ⁶



Potential Solution/Applications

Social Support

In order to prevent any decreased self-efficacy or depression in mothers of multiples, which may affect their maternal sensitivity, social support from close relatives and friends is necessary. Not only will it help the mother, but give children other language partners to converse with as they acquire language.

Supplemental Language Acquisition Toys

Since infants need to be immersed in language by parents in order to acquire language and children of multiples do not receive as much immersion, parents can use special educational and language development toys that can speak back to the child, allowing them to be interacted with in a similar way parents would interact with them. VTech® Toys and LeapFrog® Toys are two companies which specialize in educational electronic toys for young children and infants that help develop a child language skills

Elementary Language Acquisition Programs

Programs can be made in elementary schools for multiples so they can receive specialized, unique, and individualized attention to help stimulate their language development in order to catch up to their peers and prevent them from suffering from learning problems as they go through elementary education.

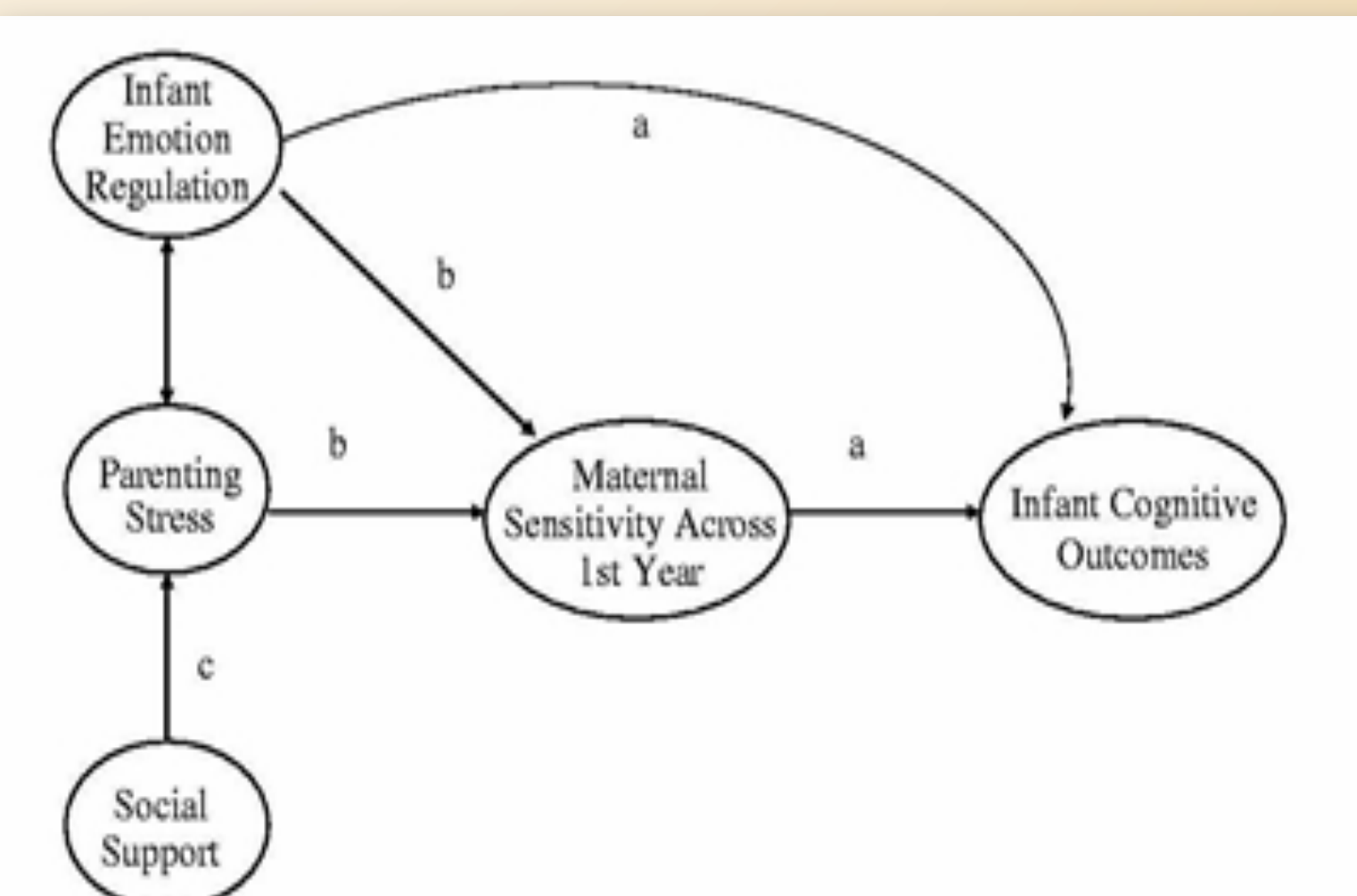


Figure 1. A model for the individual and contextual influences on infants' cognitive development in a high-risk population. Three levels of influence are proposed. Level a refers to direct influences on cognitive outcomes and includes maternal sensitivity and the infant's inborn emotion regulation capacities. Level b refers to indirect influences, which are mediated through their impact on maternal sensitivity, and includes parenting stress and infant emotion regulation. Level c indicates contextual influences, which affect cognitive development by increasing or reducing parenting stress, thereby indirectly affecting cognitive outcomes.

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