Socio-Economic Status and Language Development in Children: The Connection

Anouk Hamminga
S51483

Abstract

Language is the main reason we can communicate with each other. We obtain this skill through language development. A factor which may influence the language development is the socio-economic status. Differences in socio-economic status creates disruptions in resources and in a childs upbringing. To investigate this we have looked at different studies on the same subject and tried to combine the results. This way we can try to form a comprehensive conclusion on as much subjects as possible. Looking at the results we can see that children from a low socio-economic household have a worse language development then children from a high socio-economic household.

1 Introduction

Language is all around us. It is one of the main reason that we are able to communicate with each other. Learning a language is something that we keep developing for the rest of our lives. However the biggest part of our language development takes place in our childhood. There are a lot of different factors that have an influence on the language development. Both internal and external. We all grow up very differently from each other. This has everything to do with where we were born and how we were raised. To look at this we use the socio-economic status (SES). This can give us a broad view on a household. Because each child grows up differently the language development will be different for each child. One of the factors that might create this difference is the SES. Duncan (2015) A question we want to answer is: Does the difference in socio-economic status in a household influence the language development in children from age 0-3 years old? To research this we are going to compare results from previously performed studies on the subject. From researching related work we will be expecting that children form a low SES household will perform worse than children form a middle or high SES household. This is because children from a high or middle SES have better opportunities growing up. They are stimulated more and have a broader education. It is important to find out is SES is a determining factor for a slowed language development. If this is the case interventions can be made to households who need it, and they can be provided with resources to prevent this from happening. Pace (2017)

2 Related Work

The term socio-economic status(SES) is multidimensional and can be interpreted very broadly. In general it refers to someone's access to financial, educational, and social resources, and the social positioning, privileges, and prestige that are derived from these resources. Duncan (2015) SES can be interpreted and measured in various ways. The most modern research however focuses on parental education, family income, parental occupation or some combination of these indexes. Bradley (2001)

Language development is what forms the language ability. Which can be measured in in term of products or the process of language. By products we mean knowledge of lexical or grammatical content and by the process we mean the real-time ability to access and apply knowledge for comprehension and production. There are two learning processes that are important here. Processing efficiency and learning processes. With processing efficiency we mean the speed and accuracy with which children listen to and comprehend lan-

guage input. Learning processes involves different strategies such as learning new words and acquiring grammatical structures. Pace (2017)

There are three potential sources of socioeconomic status related to a difference in language development. Number one is child characteristics. Even though there are certain milestones that are typical in the development, every child has an unique set of characteristics. A lot of these child characteristics are important for the language development. These characteristics consist of physical and mental health, social-emotional skills, and executive functioning skills. Learning processes, defined as the strategies with which children acquire new vocabulary words and grammatical structures, are relatively unexplored in relation to socioeconomic status. Differences in SES can lead to variation in in processing skills which may present in early in development. With inequalities in vocabulary and language processing efficiency between infants from different SES backgrounds. The second source that may influence the language development is parent-child interaction. It is suggested that SES of the parent may influence the way they communicate with their children. This concerns both the amount and the language input that play a role in language growth. Quality of language might be a primary predictor of language outcomes. With quality of language input we talk in this case about vocabulary diversity, grammar complexity, contingency, use of questions and decontextualized language. When we look at the difference in SES and language input we can say that for children rom low-SES households there is limited child-directed at home. Another component that contributes to the SES gap in language development is the quality of parental care. Life stress and unsafe living environments that are associated with low SES can give a negative effect on the language development. Lastly, the third source is the availability of learning materials. More precise are this the resources at home and in the community. Children form a low SES-background may experience limited language and cognitive stimulation both at home and in the community. Research also indicates inequality's in the availability of learning materials the variety of books and linguistically stimulating toys within the home. Children from lower-SES communities may also come in contact with physical and social environment dangers, this can mean neighbourhood violence and lead exposure which can hinder cognitive development and limited outdoor play. There are limited opportunities for cultural and educational experiences, such as zoos, museums and libraries. Pace (2017)

Production and comprehension of complex sentences (Study 1B)

	Lower SES		Middle SES	
	Mean	*SD*	Mean	*SD*
Percent produced by children	12.74	5.78	13.25	4.56
Percent produced by parents	19.20	5.38	21.00	5.09
Percent comprehended by children	50.00	14.20	60.31	15.38

Figure 1: Production and comprehension of complex sentences. Huttenlocher (2002)

3 Data

The data used in this research are results of previously performed research. All of the research is done on the relationship between SES and language development. All of the used research is executed on children form the ages 0-3 years. This period is one of the most crucial when it comes to language development. None of the children had any learning disabilities and were full term at birth. Also, were the children all learning English and they weren't raised bilingual. The data is obtained through thorough research on the subject. Mostly through searching for articles on research previously done on the subject. The found data can be compared to each other. Because of different test and methods used the conclusion will be more comprehensive in various areas.

Figure 1 shows us the average percentages and standard deviations of production and comprehension of difficult sentences separated by SES group. The data form table 1 is showed figure 2 to see the relation between the complex sentences produced by mother to that produced by child. Huttenlocher (2002)

Figure 3 shows the means for certain properties of conversational samples of children. Together with the age of testing and maternal education level. Figure 4 lists the mean scored and standard deviations of outcomes of the different tests executed on the children. It contains four spontaneous language measures. Dollaghan (1999)

Figure 5 shows the percentile scores of the CDI tests for the different SES groups. CDI stands for Communicative Development Inventory. It is a parent report instrument that can be used to check a toddlers language level, and gives a look at the language development. It consists of a 680-item productive vocabulary checklist. Arriaga (1998)

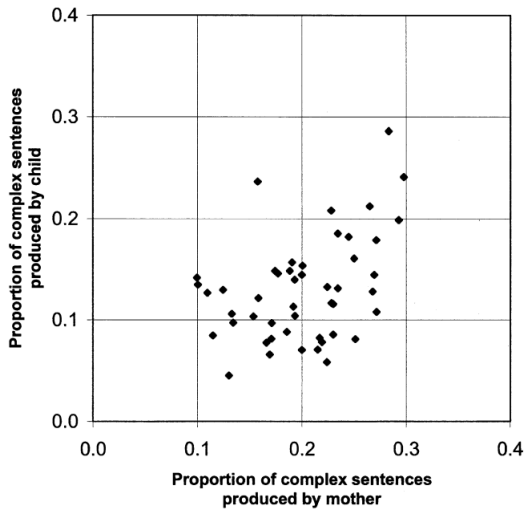

Figure 2: The relation of the proportion of complex sentences in parent speech to the proportion of complex sentences in child speech. Huttenlocher (2002)

Property	Maternal educational level: <High school (*n* = 24)		High school (*n* = 167)		College (*n* = 49)		*F*	*p*
Sample length in seconds	925	(74)	911	(91)	914	(61)	.32	.73
Total utterances	169	(47)	176	(42)	172	(36)	.40	.67
Complete and intelligible utterances	125	(38)	135	(37)	129	(33)	1.08	.34
Age in months at testing session	36.7	(0.7)	36.8	(0.7)	36.9	(0.8)	1.13	.33

Figure 3: Means (and standard deviations) for properties of children's conversational samples and age attesting by maternal educational level. Dollaghan (1999)

Measure	Maternal educational level: <High school		High school		College		Entire sample		Linear trend analysis: *df*	*F*	*p*
MLUm	2.73	(0.8)	2.97	(0.8)	3.29	(0.7)	3.01	(0.76)	1, 237	22.80	<.0001
NDW	118	(36)	131	(32)	143	(28)	132	(32)	1, 237	24.45	<.0001
TNW	454	(194)	501	(172)	533	(159)	502	(172)	1, 237	8.41	<.01
PCC	78	(8)	80	(8)	81	(8)	80	(8)	1, 237	3.43	.065
PPVT–R	90	(18)	101	(14)	110	(14)	102	(15)	1, 235	74.64	<.0001

Note. MLUm = mean length of utterance in morphemes; NDW = number of different words; TNW = total number of words; PCC = percentage of consonants correct; PPVT–R = Peabody Picture Vocabulary Test–Revised standard score.

Figure 4: Mean scores (and standard deviations) on speech and language measures by maternal educa-tional group, and for the entire sample, and linear trend analysis results. Dollaghan (1999)

	N	Mean	*SD*	Median	Range
Low income					
Girls	44	22.82	20.67	15	5–99
Boys	59	34.90	28.71	30	5–99
Combined	103	29.74	26.17	25	5–99
Middle income					
Girls	132	50.83	27.90	55	5–99
Boys	177	49.45	26.51	50	5–99
Combined	309	50.04	27.08	50	5–99

Figure 5: Vocabulary percentile scores for the low- and middle-income samples. Arriaga (1998)

4 Predicted Results

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-	NLD	SLD
HSH	Yes	No
LSH	No	Yes

Table 1: NLD: Normal Language Development, SLD: Slowed language development, HSH: High SES household, LSH: Low SES household.

With a quick look on the data you can see that the outcomes are similar. Children from a low income household or low SES household have worse results than children from a middle or high income household or middle or high SES. When we combine all of the different result we can expect something similar. On all levels will children from a low SES household score lower than children from a middle or high SES household.

5 Conclusion

Looking at predicted result we can conclude that children from a low SES household have a worse language development than children from a high SES household. This can be caused by child, characteristics, parent-child interaction or limited resources. There should definently be following studies on this subject. There should be more specific research on why low SES households are so vulnerable for a slowed language development, but also about what can be done to prevent it. https://github.com/anoukhamminga/finalproject

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