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## Health Economics and Decision Science Discussion Paper Series

No. 09/03

### **A preliminary review of the existing literature investigating ethnic and gender differences in early childhood development.**

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This series is intended to promote discussion and to provide information about work in progress. The views expressed in this series are those of the authors, and should not be quoted without their permission. Comments are welcome, and should be sent to the corresponding author.

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Keywords: Childhood development; gender differences; ethnicity.

## 1. INTRODUCTION

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There exist well documented inequalities in earnings by gender, race and ethnicity (Altonji and Blank, 1999). Those disadvantaged groups are usually referred to together as minorities, where the majority is usually ‘White-male’. Empirical research often attributes the lower earnings of minorities to their lower human capital endowments.<sup>1</sup> One view is that minorities choose to invest less in human capital due to expected labour market discrimination. An alternative view is that lower human capital acquisition among the minorities could be determined by pre-labour market factors, such as their adverse socio-economic status (Neal and Johnson, 1996). However, the age at which these ability gaps set in is not clear: one could argue that trajectory of these inequalities is established early on in childhood, and just gets accentuated by the adverse socio-economic status (Carneiro, Heckman and Masterov, 2005).

This paper reports on the findings of a preliminary review of the existing literature investigating ethnic and gender differences in early childhood development.

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<sup>1</sup> Earnings gap can be decomposed into explained and unexplained parts. The unexplained part is often attributed to labour market discrimination. Part of the explained earnings gap is often attributed to the differences in human capital endowments.

## 2. BACKGROUND

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### Gender differences in child development

Maccoby and Jacklin (1974) reviewed over 2000 studies on sex differences in behaviour. They concluded that males are more likely to be aggressive, females perform better on verbal tasks, and males on spatial and mathematical tasks, and that males are more prone to both physical and psychological vulnerability. These findings are contrary to the findings of a review by Court (1983) who found that in some studies females scored higher than males on general intelligence (IQ) tests; in others males scored higher than females, but in the majority of the studies reviewed there were no differences. However, in a statistical meta-analysis of sex differences in general intelligence Lynn and Irwing (2004) demonstrated a small effect for men over women on measures of general intelligence, a medium effect for men over women for spatial intelligence, and no evidence for a general effect of women over men for verbal intelligence abilities.

To explore any potential differences using a biological model, Lynn (1994) proposed a developmental theory of sex differences in intelligence. This theory was based on the idea that boys and girls mature physically and mentally at different rates. Girls' brain size may be similar to boys around the start of adolescence at 12-13 yrs but, at 16 yrs onwards into adulthood, boys start to develop larger average brain sizes and the differences in IQ, that last into adulthood, start to develop. Haier, et al. (2005) have also presented findings on brain structure and function. They suggest men and women achieve intelligence through different areas of the brain. They used a particular Magnetic Resonance Imaging technique called voxel-based morphometry that looks for grey and white matter around the brain whilst participants undertook an IQ test. Grey matter is thought to be associated with information processing whereas white matter is associated with information transmission. The investigators sought to examine whether IQ scores were related to brain areas where grey and white matter occurred. They demonstrated that women have more white matter and fewer grey matter areas related to IQ scores compared to men, suggesting that among men, IQ score is related to those aspects of the brain responsible for information processing; whereas, for women, intelligence is generally related to those aspects responsible for information

transmission. Perhaps an explanation for men's proposed superior abilities in spatial processing.

Although some findings suggest that males may be moderately superior compared to females in spatial ability the biological evidence to support this is limited and under much debate. It is widely held that if this difference exists it may be largely a function of environmental factors. Levine et al. (2005) suggests that boys spend more time in comparison to girls playing with building blocks, puzzles and video games and these toys are related to the development of spatial skills. This explanation would be supported by evidence that there are differences between infant boys and girls in their toy preferences at as young as 9 months of age (Campbell et al., 2000) and that the choice and use of particular toys may affect their intelligence, particularly spatial intelligence.

Girls have been reported to have a lowered maths ability in comparison to boys by adolescence (Maccoby and Jacklin, 1974). A study by Entwisle and Baker (1983) attempted to examine the origins of this difference by examining test scores of 1100 children during the first three years of school. Scores demonstrated no differences between males and females for maths, and girls did better at English. Actual scores were also compared to expectations gained from the children and the mothers. This demonstrated that although the children's expectations were accurate with respect to reading, boys' expectations for their maths ability were overstated and girls' understated. Mothers' expectations, particularly those from middle class families, were similar in terms of maths ability, they expected boys to do better and girls worse than they actually did, and they correctly expected that girls would do better than boys in reading. The authors suggest that higher expectation for boys and lower expectation for girls in maths ability is likely to be based on sex role stereotypes and these expectations are picked up by children at home during childhood. These expectations may also be conveyed to children by teachers.

#### Ethnic differences in child development

Researchers have also investigated the idea that differences in ability may be moderated by ethnicity. Brooks-Gunn, Klebanov and Duncan (1996) tested black and White 5 year old children in the U.S using an IQ test. The findings demonstrated that young black children's

scores were one standard deviation lower than the White children's scores. However, their analyses show that these differences are significantly reduced by adjusting for differences in socio-economic conditions in the neighbourhood, family poverty, maternal education, and learning experiences.

Cameron & Heckman (2001) investigated the sources of racial and ethnic differences in college attendance. They reported that long-term influences associated with parental background and family environment (such as parental income throughout the child's adolescent years), rather than short-term financial constraints, largely account for the racial-ethnic college-going differential. By controlling for the effects of family background, the authors show that ethnic minority children would be more likely to graduate from high school and attend college than White children.

An investigation into whether children's cognitive skills can explain later racial/ethnic wage gaps has been reported by Carneiro et al. (2005). The authors consider explanations such as stereotype threat effects and parental and child expectations about educational attainment. They contend that differences in children's cognitive abilities emerge at early ages (3-4 yrs), before expectations about future employment prospects have developed. Interventions aimed at eliminating skill gaps are therefore recommended to target young children prior to the onset of cognitive skill disparity. The authors also critically examine the earlier work of Neal and Johnson (1996), which investigated the skills and abilities of Black and White teenagers prior to their entry into the labour market. The results of their investigation found that controlling for scholastic ability explained the entire Black-White wage gap for the young women in the study and most of the Black-White wage gap for young men. They further proposed that the underlying cause for this skill gap was in part related to observable difference in family backgrounds. The Carneiro et al. paper supports the Neal and Johnson argument that it is essentially pre-market factors which determine the minority-majority wage differentials. However, by focusing on early childhood, they go on to demonstrate that ability gaps emerge far earlier than the teenage years. Essentially, they show that ethnic minority children enter school with 'substantially lower measured ability'(p.7) than White children. They therefore conclude that 'Factors that operate early in the life cycle of the child are likely to have the greatest impact on ability.'(p.7).

A further paper investigated the extent of educational disadvantage affecting indigenous minority groups in Australia (Bradley and colleagues, 2007). By comparing the academic performance of indigenous and non-indigenous Australian children aged 12 years old, controlling for school and family characteristics, the authors found substantially poorer results for literacy and numeracy among indigenous students. Reflecting the sentiments of Carneiro et al. (2005), they recommend that future policy should target early school years and recognise the importance of factors beyond education such as children's parental and cultural upbringing.

Gillborn and Mirza (2000) present a report on the educational inequality, in terms of GCSE attainment, among children belonging to different gender, ethnic and socio-economic groups. Using data from the Youth Cohort Study, they show that GCSE attainment (five or more higher grade A\*- C passes) in 1995 was highest for Indian boys and girls, followed by White, Pakistani/Bangladeshi and then Black boys and girls. Children from both non-manual and manual socioeconomic classes were found to follow this ethnic pattern. Percentages for GCSE attainment levels were noticeably higher among girls than boys in each of the ethnic-socioeconomic groups. In their conclusions, the authors highlight the fact that ethnic inequalities in education have increased in recent years with African-Caribbean and Pakistani pupils not sharing equally in the otherwise rising levels of GCSE attainment.

### 3. METHODS

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#### Aims and Objectives

This preliminary literature review was conducted as a preparatory exercise to ascertain the feasibility of executing a larger research project on the topic of gender and ethnic differences in early childhood development. Accordingly, the review objective was to provide a brief overview of the current literature within the given resource and time constraints<sup>2</sup>. The specific aim of the review was to identify published studies investigating the impact of gender and ethnicity on measures of early childhood development, after controlling for parental socioeconomic status.

#### Search Strategy

The literature search comprised a series of comprehensive key word searches performed on the electronic databases listed in Table 1. Individual search strategies were developed for each database by firstly identifying mapped terms for the main concepts: child development; gender; ethnicity; and socioeconomic position. The mapped terms were then combined with a series of key words in free text, to form the complete search strategy (refer to Appendix I for full details).

Table 1 Electronic Databases

Database	Time Period Searched
MEDLINE accessed via OvidSP	1950 to August 2008 Week 2
EMBASE accessed via OvidSP	1980 to 2008 Week 33
CINAHL accessed via OvidSP	1982 to August 2008 Week 3
ASSIA accessed via CSA	1987 to August 2008
SSCI accessed via Web of Knowledge	1956 to August 2008
PsycINFO accessed via OvidSP	1967 to July 2008 Week 5

Notes:

CINAHL (Cumulative Index to Nursing and Allied Health Literature); ASSIA (Applied Social Sciences Index and Abstracts); SSCI (Social Sciences Citation Index); CSA (Cambridge Scientific Abstracts).

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<sup>2</sup> Funding was provided for a literature search to be conducted by the second author by the University of Sheffield, Faculty of Social Sciences, Devolved Fund.

## Inclusion and Exclusion Criteria

The titles and abstracts of references retrieved in the search were examined to determine their relevance to the review in accordance with the inclusion/exclusion criteria outlined in Table 2 below. The studies included in the review therefore examined the impact of gender and ethnicity on a measure(s) of childhood development and employed a general population sample of healthy children aged between 0 and 11 years. Two further aspects of interest were whether or not the studies had: (i) controlled for parental socioeconomic status; and (ii) tested for an interaction between gender and ethnicity.

Table 2 Inclusion and Exclusion Criteria

Factor	Inclusion Criteria	Exclusion Criteria
Population	<ul style="list-style-type: none"><li>• General population sample of healthy children</li><li>• Children aged between 0 to 11 yrs</li><li>• Male and female children</li><li>• Children from two or more ethnic groups</li></ul>	<ul style="list-style-type: none"><li>• Sample not drawn from general population (e.g. disease-specific; health condition-specific)</li><li>• Children aged above 11 yrs of age</li><li>• Only male or only female children</li><li>• Children from one ethnic group</li></ul>
Exposure	<ul style="list-style-type: none"><li>• Gender effects examined</li></ul>	<ul style="list-style-type: none"><li>• Gender effects not examined</li><li>• Gender effects adjusted for</li></ul>
Outcome	<ul style="list-style-type: none"><li>• One or more measures of childhood development</li></ul>	<ul style="list-style-type: none"><li>• No measures of childhood development</li></ul>
Comparison	<ul style="list-style-type: none"><li>• Comparison of children from two or more ethnic groups</li></ul>	<ul style="list-style-type: none"><li>• No comparison of children from two or more ethnic groups</li></ul>
Analysis	<ul style="list-style-type: none"><li>• Adjustment for parental socioeconomic status</li><li>• Gender x ethnicity interaction examined</li></ul>	<ul style="list-style-type: none"><li>• No adjustment for parental socioeconomic status</li><li>• Gender x ethnicity interaction not examined</li></ul>
Language	<ul style="list-style-type: none"><li>• English</li></ul>	<ul style="list-style-type: none"><li>• Not English</li></ul>

## Results

A total of 899 hits were retrieved in the database searches, 124 of which were found to be duplicates. Of the remaining 775 hits, six relevant papers were identified with only two

meeting the full inclusion criteria. The main characteristics of the relevant papers are outlined in Table 3 below.

Table 3 Characteristics of Relevant Studies

Authors & (Year)	Country	Ethnic Group (Sample Size)	Age of Children	Statistical Analysis			Adjustment for parental SES	Outcome Measure(s)
				Gender effects tested	Ethnicity effects tested	Gender x ethnicity interaction		
Denno et al. (1982)	United States	Black White (Total n=3013)	8 months; 4 years; 7 years.	Yes	Yes	Yes	Yes (measures not specified).	6 scales of early cognitive functioning (spatial and verbal abilities).
McLeod & Owens (2004)	United States	Black (266) Hispanic (101) Whites (204)	10-11 years	Yes	Yes	Yes	Yes (poverty history)*.	Scholastic competence, self- worth, depression; hyperactivity.
Patterson et al. (1990)	United States	Black (340) White (528)	Grades 2-4	Yes	Yes	Yes	No (income level as independent variable).	Class Room Adjustment Rating Scales; reading, maths; language achievement.
Pinkett & Quay (1985)	United States	Black White (Total n=868)	Preschool	Yes	Yes	Yes	No (all children 'middle SES').	Social interaction; cognitive play activity.
McNiece et al. (2004)	United Kingdom (National Child Development Study; British Cohort Study 1970).	Non-White (2%, 4%) White (96%, 98%) (Total n= 30,970)	16 years	Yes	Yes	No	No (Registrar General's social class as independent variable).	Reading & maths tests.
Rigby et al. (1999)	United Kingdom (Sheffield)	Pakistani (161) Bangladeshi (17) Indian (5) Black Caribbean (52) Black Other (41) Black African (6) Chinese (8) Other (74) White (3140)	5 years	Yes	Yes	No	No	Infant Index (literary, maths; social behaviour, independent learning).

Notes: \* Maternal education found to parallel effects of poverty history (poverty history = proportion of years during child's life that mother's household income fell below the poverty line).

## 4. SUMMARY OF THE LITERATURE

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### Gender and ethnic differences in child development

The literature search revealed a few investigations that have attempted to assess both gender and ethnicity differences in child development. A longitudinal study examining sex and race differences in White and Black children at 8 months, four years and seven years was conducted by Denno et al (1982). Cognitive tests were administered to 3013 children and the findings demonstrated a slight sex by race interaction at four and seven years. White females scored lower on cognitive tests in comparison to White males, however Black females scored either at the same level or somewhat higher than Black males. Maturation and environmental influences were put forth as explanations for this pattern of findings.

Patterson et al (1990) analysed data for 868 Black and White primary school children. The findings demonstrated that income level and gender were better overall predictors of children's competence in conduct and peer relations than were ethnicity or household composition. Income level and ethnicity were better overall predictors of academic achievement than were gender or household composition, although each of the 4 variables made a significant contribution. Boys and children from low-income homes were less likely than other children to be competent across domains. Income level and ethnicity were the best predictors of academic achievement, Blacks and those from low-income homes received lower scores.

A further investigation by Mcleod and Owens (2004) analysed data for 628 Black, Hispanic and White children aged 10-11 and 14-15. Interactions between gender and race/ethnicity were explored and the results showed that Black and Hispanic girls reported higher levels of scholastic competence than Black and Hispanic boys at ages 10-11. White girls reported lower levels of scholastic competence than White boys although this difference was not significant and minority adolescent girls reported higher levels of well-being than their male counterparts. The findings were contrary to the authors' hypothesis that lower levels of psychological well-being would be experienced by members of racial and ethnic minority groups, females, and persons from poor families.

Pinkett and Quay (1985) compared Black and White middle socio-economic status boys and girls on frequency of social interaction with peers, frequency of involvement in a non-social task, and the frequency of engagement in cognitive play types. They demonstrated no differences between races, or the sexes, nor a race by sex interaction on cognitive play types. Sex differences were observed for social interaction and object orientation. They conclude that sex and socio-economic status and possibly other characteristics may influence social and cognitive behaviours in children.

The following two papers examined gender and ethnicity differences in child development but did not assess an interaction between gender and ethnicity.

McNeice et al. (2004) used the National Child Development study (NCDS) and the British Cohort Study of 1970 (BCS70) to investigate trends in educational attainment of children in the U.K. over time. They showed that over the period of the two longitudinal studies they used (1974-1986), girls began to improve their scores in mathematics thus reducing the gap between boys and girls, however, boys began to fall behind girls on reading attainment. In terms of ethnicity, attainment among the non-White group was shown to be much lower than among the White group. The authors compared the two cohorts and although the gap between White and non-White decreased over time, significant differences in average attainment between the two ethnic groups remained.

Rigby et al. (1999) matched 4487 children from two datasets, a community child health dataset for the cohort of children born in Sheffield in 1990-1991 and an educational dataset, when the children were entering primary school, provided by schools for the years 1995-1996. The findings demonstrated that boys were 2.1 times more likely than girls to have a poor infant index showing boys generally do less well at school and more boys than girls are assessed as having significant learning difficulties. In terms of ethnicity, Pakistani and Bangladeshi children scored significantly lower than other ethnic groups. The authors present a possible explanation for this. The infant index is biased against these two ethnic groups as it focuses on language skills in English and these children may only have English as their second language. The data also demonstrated African-Caribbean children scored at similar levels to White children.

## 5. DISCUSSION

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The subject of this review was to examine a possible interaction between gender and ethnicity in child development to provide an explanation for later labour market differences on the basis of gender and ethnicity. The search revealed relatively few interaction studies. The literature demonstrated that a gender by ethnicity interaction in childhood achievement does appear to exist. Denno et al. (1982) demonstrated that White males were doing better than White females, but Black females were doing better than Black males. Similarly, using a different measure, Mcleod and Owens (2004) showed that Black and Hispanic girls were doing better than Black and Hispanic boys, yet White boys doing better than White girls. Other papers pointed to other factors rather than sex and ethnicity to explain these differences, such as social and environmental factors. Patterson (1990) showed that boys and children from low-income homes were doing less well. The papers the search revealed appeared to show that any differences, particularly sex differences can be explained by external factors such as environmental and social factors.

The explanations put forth in these papers include family background and socio-economic status. A further explanation for differences between the genders and between those from different ethnic groups is the idea of 'stereotype threat'. In the case of girls lowered mathematics ability in comparison to boys, even if girls are on a par or even better at such tasks, stereotypical ideations can lead to girls abandoning them due to 'stereotype threat' (Steele, 1997). This concept can explain why certain groups may perform poorly in test situations as they are unwilling to go against a stereotype they have subscribed to. Plucker (1996) proposes that self-fulfilling prophecies occur in the classroom, and these may explain sex differences in intelligence, in that the expectations for boys and girls differ as a function of social or cultural norms. However, Carneiro et al (2005) oppose these explanations for race differences, as their findings show that the ethnic divergence in cognitive skills begins early in childhood before stereotypes come into play.

Other environmental explanations which may relate to cultural or social norms have been put forward by Halpern and LaMay (2000). They suggest that although males and females reach similar levels of intelligence and achievement at school, their subject choice at school is based on their gender. The difference between boys and girls could be exacerbated by even lower

expectations of girls in comparison to boys due to cultural differences in attitudes towards girls' educational achievement. Furthermore, there may be other factors which differentiate children in terms of ability. Levine, et al, (2005), in a longitudinal study, administered two spatial tasks requiring mental transformations and a task of verbal comprehension to children, no sex difference was found between boys and girls on the verbal task, however socio-economic status had an effect on spatial tasks.

Further, Kirby and Boulter (1999) suggest that those with lowered spatial ability may be further disadvantaged by teaching methods which rely on the use of complex visual stimuli and in visual and technical environments such as computers and the internet. This may make sex differences in spatial abilities more apparent.

The parental influence on gender-typed behaviour has been shown to be important. Parents make efforts to attract their child's attention into gender-appropriate directions. Empirical evidence in support of this is provided by Condry and Condry (1976). They showed adults a video of a 9 month old infant responding to an emotion-arousing toy and were asked to describe the emotion they felt was displayed. There were two conditions, in the first the adults were told the child was a boy, and in the second the same infant was introduced as a girl. The results demonstrated that adults who thought the infant was a boy labelled the emotion anger, whereas those who thought the infant was a girl thought the emotion displayed was fear.

## LIMITATIONS

It should be noted that this is not a systematic review, and was undertaken as a scoping review in advance of a full systematic review on the topic being conducted. Therefore, the findings presented here should be treated with caution as the research questions were not fully pre-specified. This may have led to some degree of subjectivity being introduced.

It is intended that a full systematic review will be undertaken using a clearly formulated question that uses explicit methods to minimise bias in the location, selection, critical evaluation and synthesis of research evidence.

## CONCLUSION

This review has attempted to present the relevant literature on child development in order to provide a basis for explaining inequalities in earnings by gender and ethnicity in adulthood. It is clear that more research is needed to fully explain apparent gender and ethnicity differences in child development with respect to the labour market. We can add to this literature by examining gender and ethnicity interactions in child development using a full systematic review.

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APPENDIX I: Individual Database Search Strategies

DATE	SOURCE	SEARCH TERMS	LIMITS	HITS
22 <sup>nd</sup> August 2008	PsychINFO via OVID	(children or childhood or infant*).mp. [mp=title, abstract, heading word, table of contents, key concepts] AND *sex roles/ or *gender identity/ or *sex role attitudes/OR *sex discrimination/ OR (gender or sex or gender inequalit* or gender discrimination).mp. [mp=title, abstract, heading word, table of contents, key concepts] AND (Racial and ethnic groups).mp. [mp=title, abstract, heading word, table of contents, key concepts] OR (Racial and ethnic differences).mp. [mp=title, abstract, heading word, table of contents, key concepts] OR *cross cultural differences/ OR (ethnic* or race or racial or cultur*).mp. [mp=title, abstract, heading word, table of contents, key concepts] AND *childhood development/ or *early childhood development/ or *developmental stages/ OR *infant development/ OR *cognitive development/ or *intellectual development/ or *language development/ or *perceptual development/ OR *psychosocial development/ or *psychosexual development/ or *emotional development/ OR *school readiness/ OR child development OR cognitive development OR social development OR behavioural development OR behavioral development OR sex role development OR psychological development OR school readiness AND *socioeconomic status/ or *family socioeconomic level/ or *income level/ or *lower class/ or *social class/ OR *educational background/ or *educational attainment level/ or *parent educational background/ OR (income OR employment OR socioeconomic OR socio-economic OR education)	Humans English Language Abstracts	33
25 <sup>th</sup> August 2008	ASSIA via CSA	((DE=("school readiness" or "child development" or "cognitive development" or "emotional development" or "psychological development" or "psychosexual development" or "psychosocial development" or "social development")) or KW=((child development) or (cognitive development) or (social development)) or KW=((behavioural development) or (behavioral development) or (sex role development)) or KW=((psychological development) or (school readiness)))) and (DE=("gender inequalities" or "son preference" or "gender" or "gender differences" or "sex")) or KW=(gender or sex)) and (DE=("immigrants" or "ethnic groups" or "ethnicity" or "race" or "racial groups")) or KW=(ethnic* or race or racial) or KW=cultur*) and (DE=("employment status" or "academic achievement" or "income" or "qualifications" or "social class" or "socioeconomic status" or "wealth")) or KW=(socioeconomic or socioeconomic or income) or KW=(education or employment))) and KW=(children or childhood or infants)	English Language Titles, Abstracts, Keywords	409
25 <sup>th</sup> August 2008	EMBASE via OvidSP	*child/ or *toddler/ or *infant/ or *baby/ or *childhood/ or (children or childhood or infant*).mp. [mp=title, abstract, subject headings, heading word, drug trade name, original title, device manufacturer, drug manufacturer name] AND *gender/ or *sex/ or (Gender or sex).mp. [mp=title, abstract, subject headings, heading word, drug trade name, original title, device manufacturer, drug manufacturer name] AND *ethnic or racial aspects/ or *cultural factor/ or *ethnic difference/ or *ethnicity/ or *race difference/ or *race/ *immigrant/ or (ethnic* or race or racial or immigrant or cultur*).mp. [mp=title, abstract, subject headings, heading word, drug trade name, original title, device manufacturer, drug manufacturer name] AND *child development/ or *motor development/ *cognitive development/ or *language development/ *Psychosocial Development/ *Psychosexual Development/ or (child development or cognitive	Humans English Language Abstracts	87

		development or social development or behavioural development or behavioral development or sex role development or psychological development or psychosocial development or psychosexual development or school readiness).mp. [mp=title, abstract, subject headings, heading word, drug trade name, original title, device manufacturer, drug manufacturer name] AND *income/ or *academic achievement/ *Social Status/ or *Socioeconomics/ or *Social Class/ *employment status/ or (socioeconomic or socio-economic or income or education or employment).mp. [mp=title, abstract, subject headings, heading word, drug trade name, original title, device manufacturer, drug manufacturer name]		
25 <sup>th</sup> August 2008	MEDLINE via OvidSP	*child/ or *child, preschool/ or *infant/ or *infant, newborn/ or (children or childhood or infant*).mp. [mp=title, original title, abstract, name of substance word, subject heading word] AND *Gender Identity/ or (Gender or sex).mp. [mp=title, original title, abstract, name of substance word, subject heading word] AND *Ethnic Groups/ *Minority Groups/ *Emigrants and Immigrants/ or (ethnic* or race or racial or immigrant or cultur*).mp. [mp=title, original title, abstract, name of substance word, subject heading word] AND *Child Development/ or (child development or cognitive development or social development or behavioural development or behavioral development or sex role development or psychological development or psychosocial development or school readiness).mp. [mp=title, original title, abstract, name of substance word, subject heading word] AND *Educational Status/ or *Socioeconomic Factors/ or *Social Class/ or (Income or education or employment or socioeconomic or socio-economic).mp. [mp=title, original title, abstract, name of substance word, subject heading word]	Humans English Language Abstracts	148
25 <sup>th</sup> August 2008	SCCI via Web of Science	TS=(children OR childhood OR infant*) AND TS=(gender OR sex) AND TS=(ethnic* OR race OR racial OR immigrant OR cultur*) AND TS=(childhood development OR cognitive development OR social development OR behavioural development OR behavioral development OR sex role development OR psychological development OR psychosocial development OR school readiness) AND TS=(socioeconomic OR socio-economic OR education OR income OR employment)	English Language Topic	174
25 <sup>th</sup> August 2008	CINAHL via OvidSP	*child/ or *child, preschool/ or *infant/ or (children or childhood or infant*).mp. [mp=title, subject heading word, abstract, instrumentation] AND *GENDER IDENTITY/ or *GENDER BIAS/ or (gender or sex).mp. [mp=title, subject heading word, abstract, instrumentation] AND *Ethnic Groups/ or *Minority Groups/ or *IMMIGRANTS/ or (ethnic* or race or racial or immigrant or cultur*).mp. [mp=title, subject heading word, abstract, instrumentation] AND *child development/ or *infant development/ or (child development or cognitive development or social development or behavioural development or behavioral development or sex role development or psychological development or psychosocial development or school readiness).mp. [mp=title, subject heading word, abstract, instrumentation] AND *Educational Status/ or *Social Class/ or *Socioeconomic Factors/ or *Employment Status/ or (socioeconomic or socio-economic or income or education or employment).mp. [mp=title, subject heading word, abstract, instrumentation]	English Language Abstracts	48