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| **Domain:** | Environmental Exposures |
| **Measure:** | Sibship/Birth Order |
| **Definition:** | Questions about the respondent's full siblings, those with whom the respondent shares both a birth mother and father, and the birth order of all siblings. |
| **Purpose:** | Sibship and birth order have social, biological, and environmental effects on a person's health and well being. Comparisons of the number of siblings, spacing between siblings, and order of birth are made in many surveys and epidemiological studies. These characteristics have been linked to educational attainment, behavior, immunology, environmental exposures, and childhood diseases. |
| **Essential PhenX Measures:** |  |
| **Related PhenX Measures:** | Current Age |
| **Collections:** |  |
| **Keywords:** | Siblings, brothers, sisters, twins, birth order, siblings, number of siblings, spacing between siblings, immunology, behavior, educational attainment, fraternal twins, identical twins, Environmental Exposures |

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| **Protocol Release Date:** | October 30, 2009 |
| **PhenX Protocol Name:** | Sibship/Birth Order |
| **Protocol Name from Source:** | The Expert Review Panel has not reviewed this measure yet. |
| **Description:** | Questions are asked about the respondent's siblings, including the number of full brothers and sisters, if he/she has twin siblings, and a more detailed description of the birth order of all siblings including name and vital status. The protocol uses the adjective, full, to refer to siblings to whom a subject is related by blood and not by marriage. |
| **Specific Instructions:** | None |
| **Protocol:** | 1. Now I would like to ask about your full brothers and sisters, that is, those with whom you share both birth mother and father. Please include brothers and sisters who are living or deceased, but do not include adopted, foster, half or step brothers or sisters.[ ] How many full brothers do you have? \_\_\_\_ \_\_\_\_ [ ] How many full sisters do you have? \_\_\_\_ \_\_\_\_ IF NO BROTHERS AND SISTERS, DON'T KNOW, OR REFUSED SKIP REMAINING SIBLING QUESTIONS.

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| 2. Do you have a twin brother or sister?[ ] 1 Yes ------->[ ] 2 No[ ] 9 NA | Are you and your twin identical or not identical?[ ] 1 Identical[ ] 2 Not identical (fraternal)[ ] 9 NA |

3. Now, let's start with the oldest among all your brothers and sisters, **including yourself.**

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| **Who is the oldest?/What is the first name of your next brother or sister?**  | **What is [NAME'S] sex?**  | **Is [NAME]** **still living?**  | **How old [is [NAME] now/ was [NAME]** **when he/she died]?**  |
| A. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  | [ ] 1 Male[ ] 2 Female[ ] 9 NA | [ ] 1 Yes[ ] 2 No[ ] 3 Respondent[ ] 9 NA | \_\_\_ \_\_\_ years |
| B. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  | [ ] 1 Male[ ] 2 Female[ ] 9 NA | [ ] 1 Yes[ ] 2 No[ ] 3 Respondent[ ] 9 NA | \_\_\_ \_\_\_ years |
| C. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  | [ ] 1 Male[ ] 2 Female[ ] 9 NA | [ ] 1 Yes[ ] 2 No[ ] 3 Respondent[ ] 9 NA | \_\_\_ \_\_\_ years |
| D. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  | [ ] 1 Male[ ] 2 Female[ ] 9 NA | [ ] 1 Yes[ ] 2 No[ ] 3 Respondent[ ] 9 NA | \_\_\_ \_\_\_ years |
| E. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  | [ ] 1 Male[ ] 2 Female[ ] 9 NA | [ ] 1 Yes[ ] 2 No[ ] 3 Respondent[ ] 9 NA | \_\_\_ \_\_\_ years |
| F. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  | [ ] 1 Male[ ] 2 Female[ ] 9 NA | [ ] 1 Yes[ ] 2 No[ ] 3 Respondent[ ] 9 NA | \_\_\_ \_\_\_ years |
| G. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  | [ ] 1 Male[ ] 2 Female[ ] 9 NA | [ ] 1 Yes[ ] 2 No[ ] 3 Respondent[ ] 9 NA | \_\_\_ \_\_\_ years |
| H. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  | [ ] 1 Male[ ] 2 Female[ ] 9 NA | [ ] 1 Yes[ ] 2 No[ ] 3 Respondent[ ] 9 NA | \_\_\_ \_\_\_ years |
| I. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  | [ ] 1 Male[ ] 2 Female[ ] 9 NA | [ ] 1 Yes[ ] 2 No[ ] 3 Respondent[ ] 9 NA | \_\_\_ \_\_\_ years |
| J. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  | [ ] 1 Male[ ] 2 Female[ ] 9 NA | [ ] 1 Yes[ ] 2 No[ ] 3 Respondent[ ] 9 NA | \_\_\_ \_\_\_ years |

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| **Selection Rationale:** | These questions address full siblings, twins, total number of siblings, and birth order, all of which are variables of interest for researchers.  |
| **Source:** | University of North Carolina at Chapel Hill. Carolina Breast Cancer Study, Baseline Questionnaire, 1997, Question numbers: B5, B6, B7 (Source for Questions 1 through 3 in Protocol text) |
| **Life Stage:** | Adult |
| **Language of source:** | English, Spanish |
| **Participant:** | Age 18+ |
| **Personnel and Training Required:** | The interviewer must be trained to conduct personal interviews with individuals from the general population. The interviewer must be trained and found to be competent (i.e., tested by an expert) at the completion of personal interviews\*. The interviewer should be trained to prompt respondents further if a "don't know" response is provided. \* There are multiple modes to administer this question (e.g., pencil and paper and computer-assisted interviews). |
| **Equipment Needs:** | The questions will be administered via a pencil and paper instrument.  |
| **Standards:** |

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| **Standard** | **Name** | **ID** | **Source** |
| Common Data Element (CDE) | Person Sibling Birth Order Text | 2954182 | [CDE Browser](https://cdebrowser.nci.nih.gov/CDEBrowser/search?elementDetails=9&FirstTimer=0&PageId=ElementDetailsGroup&publicId=2954182&version=1.0) |
| Logical Observation Identifiers Names and Codes (LOINC) | Environ exp sibship birth order proto | 62528-5 | [LOINC](http://s.details.loinc.org/LOINC/62528-5.html?sections=Web) |

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| **General references:** | Arbes SJ Jr, Sever ML, Vaughn B, Cohen EA, Zeldin DC. (2006). Oral pathogens and allergic disease: results from the Third National Health and Nutrition Examination Survey. J Allergy Clin Immunol. 118(5) 1169-75.Perzanowski MS, Canfield SM, Chew GL, Mellins RB, Hoepner LA, Jacobson JS, Goldstein IF. (2008). Birth order, atopy, and symptoms of allergy and asthma among inner-city children attending Head Start in New York City. Clin Exp Allergy. 38(6):968-76.Renz H, Blumer N, Virna S, Sel S, Garn H. (2006). The immunological basis of the hygiene hypothesis. Chem Immunol Allergy. 91:30-48. |
| **Mode of Administration:** | Interviewer-administered questionnaire |
| **Derived Variables:** | None |
| **Requirements:** |

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| **Requirement Category** | **Required** |
| Major equipment | No |
| Specialized training | No |
| Specialized requirements for biospecimen collection | No |
| Average time of greater than 15 minutes in an unaffected individual | No |

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| **Process and Review:** | The Expert Review Panel has not reviewed this measure yet. |