**Florida Twin Project on Reading, Behavior, and Environment**

**Wave 3:**

**Achievement Codebook**

**ACHIEVEMENT MEASURES:**

**GATES: Gates- MacGinitie Reading Test -** Test of reading comprehension which tests students’ achievement level in reading

**Writing:** children write a story for 10 minutes in response to a prompt (i.e., “One day when I got home from school…”)

**SALT: Systematic Analysis of Language Transcripts -** SALT manages the process of eliciting, transcribing, and analyzing language samples.Writing samples are scored for grammar, punctuation, and spelling errors/accuracy, etc.

**Cohmetrix:** “computational cohesion and coherence metrics for written text.” This is a web based tool ([www.cohmetrix.com](http://www.cohmetrix.com)) in which writing samples are judged for the difficulty of written text for the target audience.

**6+1 Trait Writings (Ideas & Organization):** writing is scored for holistic quality based on the 6+1 rubric. 6+1 is based on the trait writing model of instruction and assessment that comprises key qualities that define quality writing.

**Table of Contents**

|  |  |
| --- | --- |
| Gates | [3-4](#GATES) |
| Writing: SALT | [5-10](#SALT) |
| Writing: Coh-Metrix | [11-14](#COH) |
| Writing: 6+1 Ideas | [15-19](#Ideas) |
| Full Code Appendix | [20-29](#Appendix) |

**SAMPLE OVERVIEW:**

* All achievement files as pulled from Wave 3 filemaker have **626 twins** and the following cases are missing data for all achievement measures.
  + 17 twins **(8 pairs: 734, 1344, 1844, 468, 745, 1767, 2074, 2428, plus 288500)** did not participate at all (self-report or achievement)
  + 2 twins **(FID 3100; recorded as 9993100)** was dropped from the dataset due to parents failing to return the consent form.
  + 10 twins were missing gates **(187100/01, 206300/01, 240000/01, 54000/54001, 268700, 319600)**
* Data missing per measure (i.e., MF, TOSREC, Gates) is specified in the measure specific descriptions.

***PLEASE NOTE:*** *This Codebook is designed as a USER GUIDE for those who wish to later use the Achievement & Writing data and need additional information about what is included in the data and how samples were coded. It is* ***NOT*** *intended for the purposes of training individuals to score the standardized measures or code the writing samples for SALT/Cohmetrix. There are separate scoring manuals for standardized measures and separate Twin Study Writing codebooks that are expanded for training purposes with additional examples and training materials. Additional writing codebooks & training materials can be found in the Writing folders on the Twins Drive.*

**GATES (Reading Comprehension)**

1. **GATES (Gates- MacGinitie Reading Test):** Only the reading comprehension section was administered in Wave 3 to assess students’ achievement level in reading.
2. **Assessment w/GATES**
   1. Twins read passages and answer multiple choice questions about them
   2. They are given 35 minutes to complete the Gates
   3. Different booklets are given based on grade level.
3. **Sample and Test Characteristics**

**597 | COMPLETED GATES**

**597** Valid data to use for analyses

0 Excluded – no issues

**29 | MISSING GATES**

17 Twins did not participate at all (self-report or achievement)

2 2 twins who are dropped due to parents failing to return the consent **(FID 3100\*)**

10Additional twins were missing gates **(187100/01, 206300/01, 240000/01, 54000/54001, 268700, 319600)**

**626 | 626 \*Total twins** *\*numbers match\**

**TEST and SAMPLE characteristics of the GATES in the current study**

|  |  |  |
| --- | --- | --- |
| **Grade Level** | **Number of Test Questions** | **Number packets completed per grade** |
| 3 | 48 | 2 |
| 4 | 48 | 38 |
| 5 | 48 | 65\* - FID 3100 completed grade 5 but was excluded |
| 6 | 48 | 50 |
| 7 – 9 | 48 | 193 |
| 10 – 12 | 48 | 247 |
| adult | 48 | 2 |
|  |  | **597** |

1. **Scoring GATES**
   1. All answers were entered in Filemaker and identified as correct or incorrect
   2. Total scores are calculated by taking the number correct and subtracting the number incorrect and Standardized Scores are computed (in filemaker) based on grade norms for time of year the measure was administered.
   3. Need to use Standardized Scores when running analyses with the Gates
2. **GATES Variables:**

|  |  |
| --- | --- |
| **Variable** | **Description** |
| Gates\_Total | Total sum score (i.e., number correct) |
| Gates\_SS | Standardized Scores based on grade norms for time of year |

**Writing: SALT**

1. **Writing Prompt:** The twins were instructed to write for 10 minutes for a specified prompt (i.e., “One day when I got home from school…”)
2. **SALT (Systematic Analysis of Language Transcripts)** manages the process of eliciting, transcribing, and analyzing language samples.Writing samples are scored for grammar, punctuation, and spelling errors/accuracy, etc. with specialized coding protocols and software.
3. **SALT Software: (**[**http://saltsoftware.com**](http://saltsoftware.com)**)** 
   1. The SALT website has several reference guides and training tips to help users understand coding and use of SALT. Free tutorials are also available online.
   2. **Note:** the website and SALT resources provide many more options for coding and SALT transcription than were used in the current study.
4. **Useful Terms**
   1. **Utterance** – *an independent clause* with all of its subordinate clauses and modifiers attached to it. An utterance cannot be subdivided further without losing the essential meaning. One sentence may have multiple utterances.
   2. **Clause –** a clause contains both a subject and a predicate (i.e., noun + verb)
5. **SALT Data Overview –** Below are variable names and descriptions for the SALT data

|  |  |  |
| --- | --- | --- |
| **Variable** | **Label** | **Description/Explanation** |
| Total Utterances | Total Utterances | The total number of independent clauses the child (i.e., twin) used in his or her writing sample. This is different than the number of sentences because 1 sentence can have multiple utterances. |
| MLU-W | Mean Length of Utterance | The mean number of words per utterance in the child’s writing sample. |
| NDW | Number of different words | The total number of different (i.e., non-repeating) words that were used in the child’s writing sample. This indicates diversity/size of vocabulary represented in the writing sample. |
| NTW | Number of total words | The total number of words (i.e., repetitions counted) in the writing sample. This provides information about the length of the writing sample generally. |
| EO:S | Errors of overgeneralization: Spelling | The total number of spelling mistakes in the writing sample. |
| EO:G | Errors of overgeneralization: Grammar | The total number of grammatical mistakes in the writing sample. |
| EO:P | Errors of overgeneralization: Punctuation | The total number of punctuation mistakes in the writing sample. |

1. **SALT Coding Overview –** All SALT codes are placed in brackets and programmed into the SALT software, so that the SALT program can count them. Codes may occur at either the word-level (i.e., code goes after an error) or at the utterance level (i.e., code goes at the end of the sentence)

|  |  |  |
| --- | --- | --- |
| **SALT Code** | **Label** | **Description, Explanation, or Notes** |
| C | a new utterance | * C stands for “child” and denotes the beginning of a new utterance in the child’s writing. * (In oral transcription, C also denotes that the utterance belongs to the child and not the examiner) |
| [MC] | Main clause | * Denotes the main clause of an utterance |
| [SC] | Subordinating clause | * Denotes the subordinating clause of an utterance (i.e., cannot stand on its own as an independent clause) |
| [EO:S] | Spelling error | * Indicates that the word immediately preceding was spelled incorrectly. |
| [EO:G] | Grammar error | * Indicates that a grammatical error was made immediately preceding the code. |
| [EO:P] | Punctuation error | * Indicates that a punctuation error was made immediately preceding the code. |
| *Note: Error coding does not specify the type of error beyond the three main categories (e.g., does not specify if a punctuation error is due to capitalization, quotations, apostrophes, etc).* | | |

**COUNTING WORDS**

* When words are repeated for emphasis, only count them twice
  + Ex: “I was very, very, very excited” are counted at 5 words total. “Very” is only counted twice, rather than 3 times.

**SALT SPELLING ERRORS [EO:S]**

* **Spelling errors** are used ONLY for words that are NOT words in the English orthographic language
* **Spelling Errors [EO:S] INCLUDE:**
  + Incorrect spelling *(e.g., “baving” for “bathing”)*
  + Unnecessary spaces *(e.g., “re wind” for “rewind”)*
  + Splitting a word across two lines *without* a dash [-] *(e.g.,“comp-uter” split across 2 lines without a dash)*
* **Additional Coding Notes**
  + Spelling errors are **NOT** given additional punctuation errors
    - *Ex: “The taecher’s went to school” 🡪 “taecher’s” [EO:S], rather than “taecher’s” [EO:S] [EO:P]*
  + **Wrong word forms or incorrect words** (e.g., “there” in place of “their” OR “tuck” for “duck”) are **NOT** coded as spelling errors because the words included were technically spelled correctly. Wrong words are instead counted as grammatical errors. See grammatical error section for more information.

**SALT GRAMMATICAL ERRORS [EO:G]**

* In places where multiple different words/morphemes/revisions could be used to correct the sentence, the fewest numbers of grammatical errors possible are coded.
* **Grammatical Errors [EO:G] INCLUDE, but are not limited to:**
  + Tense changes
    - Occurring across the whole passage
    - Occurring within an utterance
  + Incorrect verb tense *(\*several are also examples of incorrect bound morphemes below)*
    - No subject-verb agreement (e.g., “he go”)
    - Incorrect combinations of verb forms (e.g., “he was looked”)
    - Overgeneralizing tense rules (e.g., “he goed”)
  + Omitted, Incorrect, or Unnecessary words
    - Omitted words (e.g., “I opened window”)
    - Incorrect homophone (e.g., “that is **there** house”)
    - Incorrect prepositions, pronouns, etc. (e.g., “that is **she** dog,” “put the book back **to** the bookshelf”) that are not otherwise regionally accepted forms (e.g., “stand on line” and “stand in line” are both correct)
    - Unnecessary words (e.g., “that **there** bag is mine”)
  + Omitted or Incorrect bound morphemes
    - Plurality (e.g., “the book costs five dollar” or “the fish**es** are eating”)
    - Possessive (e.g., “I am in my mom car” or “the school**s’s** lunch is gross”)
    - Past tense (e.g., “she call him yesterday” or “she **lefteded** her homework”)
    - Present participle (e.g., “she is dance in a show”)
    - Comparisons/Superlatives (e.g., “he is good**er** than me” or “homework is the wors**est**”)
  + Violated word order (e.g., “she has a cat cute”)

**GRAMMAR REFERENCES**

Bishop, D.V.M (1994). Grammatical errors in specific language impairment: Competence or performance limitations? Applied Psycholinguistics, 15, 507-550.

Gonzalez-Bueno, M. & Perez, L. (2000). Electronic mail in foreign language writing: A study of grammatical and lexical accuracy, and quantity of language. Foreign Language Annals, 33, 189-198.

Hall-Mills & Apel (2012). Narrative and expository writing of adolescents with language-learning disabilities: A pilot study. *Communication Disorders Quarterly, 34*, 135-143.

**SALT PUNCTUATION ERRORS [EO:P]**

* **Punctuation Errors [EO:P] INCLUDE, but are not limited to:**
  + **End-of-sentence punctuation**
    - Incorrect (e.g., “why did he jump**.**”)
    - Missing (e.g., “I went to the park I went on the swings”)
      * If an omission error is coded for end-of-sentence punctuation, NO capitalization errors are given simultaneously for start of next sentence
  + **Within-utterance punctuation** 
    - Missing (e.g., “I bought apples bananas and cherries”)
    - Incorrect (e.g., “he bicycles; skateboards; and snowboards”)
    - Extraneous, often resulting in sentence fragments (e.g., “he said to. go away”)
  + **Specific rules for commas** *(some are captured above)*
    - Error if not used to separate words or word groups in series of 3 or more items
    - NO error if Oxford comma is not used (e.g., “…ball, bat and glove” = correct)
    - Error if not used to separate two adjectives (e.g., “he is a smart witty man”)
    - Error if not used after certain introductory words (e.g., *First, Yes, Therefore*)
    - Error if not used with expressions that interrupt the sentence (e.g., *however*)
    - Error if not used to set off a name, nickname, title, term of endearment (e.g., “thank you John for your hard work”)
    - Error if not used to separate day and year (e.g., “May 3 1993”)
    - Error if not used to separate a city and state (e.g., “…born in Toledo Ohio”)
    - Error if not used with direct quotations (e.g., He said “I love my gift!”)
    - Error if not used between a name and suffix (e.g., “Joe Parr Jr”)
    - NO error for excessive comma use
  + **Specific rules for quotations***(some are captured above)*
    - Error if not used with direct quotations (e.g., He said “I love my gift!”) regardless of the introductory phrase (e.g., said/yelled/shouted, etc)
    - Error if first word inside the quotation is not capitalized
    - Quotations should not be used when a word signals something is paraphrased (e.g., he told me **to** get in the car = correct)
    - **Within quotations…**
      * No errors if the child directly quotes a written poem, note, etc.
      * Only spelling and punctuation errors if quoting spoken language.
  + **Specific rules for apostrophes**
    - Error if **’s** is NOT added to the single form of a word when referencing possession, even if it ends in –s (e.g., “James’s bicycle” = correct)
    - Error if **’s** is NOT added to the plural form of a word that does NOT end in –s when referencing possession (e.g., “the children’s toys” = correct)
    - Error if **’** is NOT added to the plural form of a word that ends in s when referencing possession (e.g., “the actors’ contracts” = correct)
    - Error if **’s** is NOT added to the end of a compound word when referencing possession (e.g., my brother-in-law’s office” = correct )
    - Error if **’s** is NOT added to *(only)* the last noun in list when referencing joint possession (e.g., “Alexa and Emma’s room” = correct)
    - Error if **’s** is used incorrectly for personal pronouns (e.g., “his’s book”)
    - Error if **’s** is used incorrectly with the relative pronoun **“who”** (e.g., “who’s cat is this?”)
    - Error if **’s** is used incorrectly for personal pronouns (e.g., “his’s book”)
    - Error if **’s** is used incorrectly with **“it”** for possession (e.g., “my dog ate **it’s** bone” = incorrect) vs. to abbreviate “it is” (e.g., “it’s cold in here” = correct)
  + **Specific rules for capitalization**
    - Error if a word is NOT capitalized when it should be capitalized
    - “TV” must be capitalized (error if lower case) and may or may not have periods between the letters (i.e., TV and T.V. are both correct)
    - No error for overcapitalization due to the handwritten nature of the sample. \*Some individuals write in all capital letters or have a tendency to systematically form specific letters as capital letters.
* **Additional Coding Notes**
  + It is possible for a single word to receive **BOTH grammar** and **punctuation errors**
    - *“I went to the* ***principles*** *[EO:G][EO:P] office”*
    - Grammar error for incorrect word choice
    - Punctuation error for not including an apostrophe to show possession.
    - NO spelling error because “principle,” although wrong, is spelled correctly.

**PUNCTUATION REFERENCES**

Gregory, M. L., Johnson, M., & Charniak, E. (2004). Sentence-Internal Prosody Does not Help Parsing the Way Punctuation Does. In *HLT-NAACL* (pp. 81-88).

Morley, E., Hallin, A. E., & Roark, B. (2014). Data Driven Grammatical Error Detection in Transcripts of Children’s Speech. EMNLP.

Website: <http://saltsoftware.com/media/wysiwyg/tranaids/WrittenTranscriptionRules.pdf>

Website: <https://owl.english.purdue.edu/owl/resource/621/01/>

Website: <http://www.grammarbook.com/punctuation/capital.asp>

**Writing: COH-METRIX**

1. **Writing Prompt:** The twins were instructed to write for 10 minutes for a specified prompt (i.e., “One day when I got home from school…”)
2. **Coh-Metrix (Computational Cohesion and Coherence Metrics)** is a system of analyzing writing samples across a wide variety of characteristics in order to judge the complexity and difficulty of the written text for the target audience.
3. **Coh-Metrix website: (**[**http://cohmetrix.com**](http://cohmetrix.com)**)** 
   1. The Coh-Metrix website has additional reference guides and documentation to help users understand variables and scores that can be retrieved through coh-metrix tools.
   2. Users are directed there for more thorough explanations of variables. Look under the “documentation tab”
4. **For Consideration:**
   1. A text should generally have **more than 200 words** before the Flesch Reading Ease and Flesch-Kincaid Grade Level scores can successfully be applied.
5. **Entering Writing Samples into Coh-Metrix**
   1. Writing samples are first typed and specific corrections are made. They are then entered to the online tool.
   2. Below are Coh-Metrix instructions to inform the user of the corrections that are made to the writing samples.

|  |
| --- |
| **COH-METRIX INSTRUCTIONS**  Writing sample is corrected for spelling, capitalization, and end punctuation.  If a word is spelled incorrectly in the context of the sentence, but is spelled correctly as an actual word, then it is left as is. For example, 'The hole class went.' Since 'hole' is spelled correctly, regardless of context, it is left as the child spelled it.  Capitalizations of words are corrected. Proper nouns and words that start a sentence are capitalized. Unnecessary capitalizations are also corrected, as in 'doG' which is corrected to 'dog'.  If a numerical digit is written in the sample, it is left as a numerical digit. If it is written as a word, it is kept as a word. For example, '4' is left as a digit and not corrected to 'four'.  If a symbol or drawing is used in place a word within the writing sample, it is changed to the word. Referring back to the example 'I (drew a heart) pizza,' this would be changed to 'I love pizza.' Another common use is & or + in place of the word 'and'. These symbols are also changed in the clean version to the wor d 'and'. Drawings that are meant for decoration or have no word equivalent, for example a smiley face, are removed from the transcription.  If the writing sample contains an 'abandoned/end of transcript' notation, a period is added to the end of the abandoned sentence. If there is an incomplete or unfinished word, it is corrected or deleted if it cannot be interpreted. |

1. **Variables from the Coh-Metrix output:**

|  |  |
| --- | --- |
| Variable | Description of Variable |
| DESPC | Paragraph count, number of paragraphs |
| DESSC | Sentence count, number of sentences |
| DESWC | Word count, number of words |
| DESPL | Paragraph length, number of sentences in a paragraph, mean |
| DESPLd | Paragraph length, number of sentences in a paragraph, standard deviation |
| DESSL | Sentence length, number of words, mean |
| DESSLd | Sentence length, number of words, standard deviation |
| DESWLsy | Word length, number of syllables, mean |
| DESWLsyd | Word length, number of syllables, standard deviation |
| DESWLlt | Word length, number of letters, mean |
| DESWLltd | Word length, number of letters, standard deviation |
| PCNARz | Text Easability PC Narrativity, z score |
| PCNARp | Text Easability PC Narrativity, percentile |
| PCSYNz | Text Easability PC Syntactic simplicity, z score |
| PCSYNp | Text Easability PC Syntactic simplicity, percentile |
| PCCNCz | Text Easability PC Word concreteness, z score |
| PCCNCp | Text Easability PC Word concreteness, percentile |
| PCREFz | Text Easability PC Referential cohesion, z score |
| PCREFp | Text Easability PC Referential cohesion, percentile |
| PCDCz | Text Easability PC Deep cohesion, z score |
| PCDCp | Text Easability PC Deep cohesion, percentile |
| PCVERBz | Text Easability PC Verb cohesion, z score |
| PCVERBp | Text Easability PC Verb cohesion, percentile |
| PCCONNz | Text Easability PC Connectivity, z score |
| PCCONNp | Text Easability PC Connectivity, percentile |
| PCTEMPz | Text Easability PC Temporality, z score |
| PCTEMPp | Text Easability PC Temporality, percentile |
| CRFNO1 | Noun overlap, adjacent sentences, binary, mean |
| CRFAO1 | Argument overlap, adjacent sentences, binary, mean |
| CRFSO1 | Stem overlap, adjacent sentences, binary, mean |
| CRFNOa | Noun overlap, all sentences, binary, mean |
| CRFAOa | Argument overlap, all sentences, binary, mean |
| CRFSOa | Stem overlap, all sentences, binary, mean |
| CRFCWO1 | Content word overlap, adjacent sentences, proportional, mean |
| CRFCWO1d | Content word overlap, adjacent sentences, proportional, standard deviation |
| CRFCWOa | Content word overlap, all sentences, proportional, mean |
| CRFCWOad | Content word overlap, all sentences, proportional, standard deviation |
| LSASS1 | LSA overlap, adjacent sentences, mean |
| LSASS1d | LSA overlap, adjacent sentences, standard deviation |
| LSASSp | LSA overlap, all sentences in paragraph, mean |
| LSASSpd | LSA overlap, all sentences in paragraph, standard deviation |
| LSAPP1 | LSA overlap, adjacent paragraphs, mean |
| LSAPP1d | LSA overlap, adjacent paragraphs, standard deviation |
| LSAGN | LSA given/new, sentences, mean |
| LSAGNd | LSA given/new, sentences, standard deviation |
| LDTTRc | Lexical diversity, type-token ratio, content word lemmas |
| LDTTRa | Lexical diversity, type-token ratio, all words |
| LDMTLD | Lexical diversity, MTLD, all words |
| LDVOCD | Lexical diversity, VOCD, all words |
| CNCAll | All connectives incidence |
| CNCCaus | Causal connectives incidence |
| CNCLogic | Logical connectives incidence |
| CNCADC | Adversative and contrastive connectives incidence |
| CNCTemp | Temporal connectives incidence |
| CNCTempx | Expanded temporal connectives incidence |
| CNCAdd | Additive connectives incidence |
| CNCPos | Positive connectives incidence |
| CNCNeg | Negative connectives incidence |
| SMCAUSv | Causal verb incidence |
| SMCAUSvp | Causal verbs and causal particles incidence |
| SMINTEp | Intentional verbs incidence |
| SMCAUSr | Ratio of casual particles to causal verbs |
| SMINTEr | Ratio of intentional particles to intentional verbs |
| SMCAUSlsa | LSA verb overlap |
| SMCAUSwn | WordNet verb overlap |
| SMTEMP | Temporal cohesion, tense and aspect repetition, mean |
| SYNLE | Left embeddedness, words before main verb, mean |
| SYNNP | Number of modifiers per noun phrase, mean |
| SYNMEDpos | Minimal Edit Distance, part of speech |
| SYNMEDwrd | Minimal Edit Distance, all words |
| SYNMEDlem | Minimal Edit Distance, lemmas |
| SYNSTRUTa | Sentence syntax similarity, adjacent sentences, mean |
| SYNSTRUTt | Sentence syntax similarity, all combinations, across paragraphs, mean |
| DRNP | Noun phrase density, incidence |
| DRVP | Verb phrase density, incidence |
| DRAP | Adverbial phrase density, incidence |
| DRPP | Preposition phrase density, incidence |
| DRPVAL | Agentless passive voice density, incidence |
| DRNEG | Negation density, incidence |
| DRGERUND | Gerund density, incidence |
| DRINF | Infinitive density, incidence |
| WRDNOUN | Noun incidence |
| WRDVERB | Verb incidence |
| WRDADJ | Adjective incidence |
| WRDADV | Adverb incidence |
| WRDPRO | Pronoun incidence |
| WRDPRP1s | First person singular pronoun incidence |
| WRDPRP1p | First person plural pronoun incidence |
| WRDPRP2 | Second person pronoun incidence |
| WRDPRP3s | Third person singular pronoun incidence |
| WRDPRP3p | Third person plural pronoun incidence |
| WRDFRQc | CELEX word frequency for content words, mean |
| WRDFRQa | CELEX Log frequency for all words, mean |
| WRDFRQmc | CELEX Log minimum frequency for content words, mean |
| WRDAOAc | Age of acquisition for content words, mean |
| WRDFAMc | Familiarity for content words, mean |
| WRDCNCc | Concreteness for content words, mean |
| WRDIMGc | Imagability for content words, mean |
| WRDMEAc | Meaningfulness, Colorado norms, content words, mean |
| WRDPOLc | Polysemy for content words, mean |
| WRDHYPn | Hypernymy for nouns, mean |
| WRDHYPv | Hypernymy for verbs, mean |
| WRDHYPnv | Hypernymy for nouns and verbs, mean |
| RDFRE | Flesch Reading Ease |
| RDFKGL | Flesch-Kincaid Grade level |
| RDL2 | Coh-Metrix L2 Readability |

**Writing: 6+1 Ideas**

1. **Writing Prompt:** The twins were instructed to write for 10 minutes for a specified prompt (i.e., “One day when I got home from school…”)
2. **6+1 Ideas:** refers to “the main message, the content of the piece, the main theme, together with all the supporting details that enrich and develop that theme. The Ideas are strong when the message is clear, not garbled. The writer chooses details that are interesting, important, and informative – often the kinds of details the reader would not normally anticipate or predict. Successful writers do not “tell” readers things they already know; e.g., “It was a sunny day, and the sky was blue, the clouds were fluffy white…” Successful writers “show” readers that which is normally overlooked; writers seek out the extraordinary, the unusual, the unique, the bits and pieces of life that might otherwise be overlooked.”
3. **Scoring:** Ideas are scored holistically on a scale of **0-7** by a rubric assessing the author’s effective use of the following… (See rubric on p. ## for details)
   1. Main idea
   2. Topic
   3. Support
   4. Details
   5. Experience
   6. Questions
   7. Connections

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IDEAS: 1-5 | | | | | | |
|  | 0-Not  Scorable | 1 | 2 | 3 | 4 | 5 |
| Main Idea | - Protocol is blank  - Handwriting is illegible  -Student simply rewrites prompt with nothing else  (ID = 54) | - the idea is not clear  - one simple sentence (my friend came over to play)  - Doesn’t meet criteria of a 2 | - Main idea is relevant  - The main idea is conveyed in a general way (this typically due to the fact that the child has not written much  - Relevant but not developed  - e.g., One simple statement captures the topic  - Listy | - The writing is made up of one or more ideas.  - More than one idea is listed without details on each idea and a bit choppy.  - Repetitive or listy  - Jump from idea to idea | - A sense of coherent explanation is emerging and the writing makes a point  - Might be listy (might not be), but with detail(s) | - \*\*\*Not Listy!  - One clear main idea (describes one main event) is developed but could benefit from some additional work  - Topic is narrow and focused  - Good descriptive piece  - Story with basic details OR  - Unique perspective with internal thoughts but not completely elaborated |
| Topic |  | -No topic emerges | - Possible topic/theme is emerging  -Several topic/themes may emerge; any might become main idea | - Topic understandable but not fully developed.  (ID = anchor - 102300, low - 301301, high - 321700) | - On topic but not as narrow and focused as possible | - On topic and focused on main idea/topic  (ID = anchor - 193200, low - 207900, high - 188100) |
| Support |  | (ID = 173500, 142501) |  | -Might have sentences that are irrelevant and not on topic | - At least ONE idea is elaborated  - Mental picture may be easily developed. | - Supporting details are accurate and developed  - Ideas are elaborated |
| Details |  | -Sketchy, missing or no details. Or, details are not relevant to prompt. | - No details are present; piece simply restates topic and main idea or merely answers a question.  - 2 – 3 sentences with basic or slight detail | - \*\*\*Must have a few basic details  - Might have several sentences that are repetitive and do not add new detail. Very little detail  - Just naming nouns for one verb/action may not count as focused and developed details (e.g., I saw dogs, bunnies, and cats)- this is not considered details | - Beyond list, key details begin to emerge but not as developed as possible; some relevant information may be missing  - Could have a single main idea, but little/few data, not long enough | - The writer uses a few interesting, important details for support  - Details are written in a descriptive way  - Shouldn’t be confusing |
| Experience |  |  | (ID =173501, 94601)  - no internal thoughts or perspective | - main idea may show some personal knowledge and experience, but vague, not a clear picture | (ID = anchor - 273500, high -236601) | - Internal thoughts or themes may be emerging  - Author begins to present new ways of thinking about topic based on personal knowledge/experience |
| Questions |  |  | Reader has many questions due to lack of specifics; it is hard to fill in the blanks. | - Not many questions, but more could be answered with further detail | - Mental picture may be developed but questions remain | - Mental picture easily developed  - Reader’s questions are usually, not completely, anticipated and answered by the author |
|  | XXX: Key things to look for to differentiate, first things to look for, XXX: important to consider to ensure proper scoring | | | | | |

|  |  |  |
| --- | --- | --- |
|  | 6 | 7 |
| Main Idea | - Main idea is overall well-developed  - The explanation(s) are logical in sequence, accurate, and precise, and engaging, although parts may become somewhat choppy  - Ideas are fresh, original and uniquely the authors | - Overall development of ideas feels more solid and complete than a 6  - IDEA IS CLEAR, FRESH, ORIGINAL, AND UNIQUELY THE AUTHORS  - The explanation is logical in sequence  - Very descriptive  - Vocabulary is unique and more descriptive than a 6 |
| Topic | - having EITHER unique vocabulary OR great idea/topic, does not have both | - Detail to every topic |
| Support | (ID = anchor - 239500, low - 74301, high - 74301) | (ID = anchor - 122701 or 724200, low - 217201, high - 122901) |
| Details | - The author uses interesting important detail for support  - Details are relevant, telling; quality details go beyond the obvious.  - More detailed than a 5  - Great, descriptive vocabulary | - Support is strong, credible, and uses resources that are relevant and accurate  - Details are relevant, telling; quality details go beyond obvious  - Very clear picture |
| Experience | - In addition to a 5 experiences pieces, brings in daily events but with more solid perspective | - Great perspective and stance is mature and clear  - Shows metacognition  - Different from a 6 in that author puts personal twist on description |
| Questions |  | -No questions due to clarity of description |
| Connections | -Almost all questions are answered  -Not finished completely but final thoughts are included | -Exciting and interesting to read |

1. **Important Distinctions between scores:** For boundary cases, the following distinctions were identified to help scorers improve reliability
   1. **Difference between a 2 vs. 3**
      1. Relied on number of facts/amount of information derived from below the **Low 3** scoring benchmark sample **(301301)**, which contained **13** facts
         1. If less facts 🡪Give 2
         2. If 13 basic facts = low 3
         3. If more facts 🡪Give 3
   2. **Difference between a 3 vs. 4**

|  |  |
| --- | --- |
| **3** | **4** |
| * **Detail** resembles the following:   + “I went to P.E. or art, music, and Spanish”   + “I saw bunnies, cats, dogs”   + *\*\*Not details; No mental picture* * **Repetitive**: same idea in the same sentence format (sounds the same)   + Ex. “then I…, then I…, then I…” * **Confusing** * **Sentence count**: between 3-5 lines   \*\*not a hard and fast rule! | * **Detail** resembles   + “a loud thump that sounded as my parents’ house was being broken into”   + “a secret safe full of money and cameras and very dark shades”   + “People dressed in all black”   + *\*\*Helps with mental picture* * NOT **repetitive** * NOT **confusing** * **Sentence count**: about 7-10 lines   \*\*not a hard and fast rule!   * If NO detail but NOT repetitive and confusing, it’s a 4 |

* 1. **Difference between a 4 vs. 5**

|  |  |
| --- | --- |
| **4** | **5** |
| **Detail**  more adjective oriented  “yellow bus” or “bright green frog”  Can be *slightly* **list-y**  NOT **confusing**  **Sentence count**: 7-10 lines | **Detail**  use of similes or metaphors  use of dialogue  stream of consciousness style  self-questioning or reflective  “I was pondering”, “what could it be? Clothes? Shoes?”  NOT **list-y** or **repetitive**  NOT **confusing**  **Sentence count**: 10-21 lines |

* 1. **Difference between a 5 vs. 6**

|  |  |
| --- | --- |
| **5** | **6** |
| **Vocabulary**: doesn’t jump out  Ex.: situation, bright, valuable, appreciate  Not necessarily exciting; can be **boring**  Lacking **wit**, **creativity** or **cleverness**  **Sentence count**:10-21 lines | **Vocabulary**: Great and unique vocabulary  Ex.: menacing, vortex, dazzled, impacted  **Advanced metaphors/flowery language:**  Ex: “As if the star we revolve around had a winter blanket over it.”  Ex: “Burning pain filled every corner of my being.”  Is it **boring**? 🡪 NO  **Witty**, **creative**, or **clever**  **Sentence count**: 10-21 lines or more  usually on the higher end of the line count |

* 1. **Difference between a 6 vs. 7**

|  |  |
| --- | --- |
| **6** | **7** |
| **Vocabulary**: Great and unique vocabulary  Ex.: menacing, vortex, dazzled, impacted  **Advanced metaphors/flowery language:**  Ex: “As if the star we revolve around had a winter blanket over it.”  Ex: “Burning pain filled every corner of my being.”  Is it **boring**? 🡪 NO  **Witty**, **creative**, or **clever**  **Sentence count**: 10-21 lines or more  usually on the higher end of the line count | **Detail**: extensive detail in almost every sentence or every few sentences  Very **interesting**, has “wow” factor  Developed dialogue  \*\*7 is everything a 6 is plus these criteria\*\* |

**\*\*\*FULL CODE APPENDIX\*\*\***

**Code by Sara Hart**

The following code is the full code written and run by Sara for preparation of final datasets. Chunks of code are embedded throughout this codebook, but the full code is contained here exactly as was sent to Chelsea Lynch on 3/21/2017.

**proc** **import** datafile="C:\Sara\Florida\data\Wave 2 packlet coding\WAVE 2 DATA (from filemaker)\Twin Achievement Data\Math Fluency\SPSS Data File\Math Fluency Data (3202017).sav"

out=fluency2 dbms = sav replace;

**run**;

**proc** **freq** data=fluency; tables TID; **run**;

**data** fluency; set fluency2;

if TID = **273200** then MF\_Total = **.**;

**run**;

**proc** **contents**; **run**;

**proc** **means**; var MF\_Total; **run**;

**proc** **freq**; tables MF\_Total; **run**;

**proc** **import** datafile="C:\Sara\Florida\data\Wave 2 packlet coding\WAVE 2 DATA (from filemaker)\Twin Achievement Data\TOSREC\SPSS Data Files\TOSREC\_G1 (8212016).sav"

out=tosrec1 dbms = sav replace;

**run**;

**proc** **contents**; **run**;

**proc** **import** datafile=

"C:\Sara\Florida\data\Wave 2 packlet coding\WAVE 2 DATA (from filemaker)\Twin Achievement Data\TOSREC\SPSS Data Files\TOSREC\_G2 (8212016).sav"

out=tosrec2 dbms = sav replace;

**run**;

**proc** **contents**; **run**;

**proc** **import** datafile="C:\Sara\Florida\data\Wave 2 packlet coding\WAVE 2 DATA (from filemaker)\Twin Achievement Data\TOSREC\SPSS Data Files\TOSREC\_G3 (8212016).sav"

out=tosrec3 dbms = sav replace;

**run**;

**proc** **contents**; **run**;

**proc** **import** datafile="C:\Sara\Florida\data\Wave 2 packlet coding\WAVE 2 DATA (from filemaker)\Twin Achievement Data\TOSREC\SPSS Data Files\TOSREC\_G4 (8212016).sav"

out=tosrec4 dbms = sav replace;

**run**;

**proc** **contents**; **run**;

**proc** **import** datafile="C:\Sara\Florida\data\Wave 2 packlet coding\WAVE 2 DATA (from filemaker)\Twin Achievement Data\TOSREC\SPSS Data Files\TOSREC\_G5 (8212016).sav"

out=tosrec5 dbms = sav replace;

**run**;

**proc** **contents**; **run**;

**proc** **import** datafile="C:\Sara\Florida\data\Wave 2 packlet coding\WAVE 2 DATA (from filemaker)\Twin Achievement Data\TOSREC\SPSS Data Files\TOSREC\_G6 (8212016).sav"

out=tosrec6 dbms = sav replace;

**run**;

**proc** **contents**; **run**;

**proc** **import** datafile="C:\Sara\Florida\data\Wave 2 packlet coding\WAVE 2 DATA (from filemaker)\Twin Achievement Data\TOSREC\SPSS Data Files\TOSREC\_G7 (8212016).sav"

out=tosrec7 dbms = sav replace;

**run**;

**proc** **contents**; **run**;

**proc** **import** datafile="C:\Sara\Florida\data\Wave 2 packlet coding\WAVE 2 DATA (from filemaker)\Twin Achievement Data\TOSREC\SPSS Data Files\TOSREC\_G8 (8212016).sav"

out=tosrec8 dbms = sav replace;

**run**;

**proc** **contents**; **run**;

**proc** **import** datafile="C:\Sara\Florida\data\Wave 2 packlet coding\WAVE 2 DATA (from filemaker)\Twin Achievement Data\TOSREC\SPSS Data Files\TOSREC\_G9 (8212016).sav"

out=tosrec9 dbms = sav replace;

**run**;

**proc** **contents**; **run**;

**proc** **import** datafile="C:\Sara\Florida\data\Wave 2 packlet coding\WAVE 2 DATA (from filemaker)\Twin Achievement Data\TOSREC\SPSS Data Files\TOSREC\_G1012 (8212016).sav"

out=tosrec1012 dbms = sav replace;

**run**;

**proc** **contents**; **run**;

**proc** **sort** data=fluency ; by TID; **run**;

**proc** **sort** data=tosrec1 ; by TID; **run**;

**proc** **sort** data=tosrec2 ; by TID; **run**;

**proc** **sort** data=tosrec3 ; by TID; **run**;

**proc** **sort** data=tosrec4 ; by TID; **run**;

**proc** **sort** data=tosrec5 ; by TID; **run**;

**proc** **sort** data=tosrec6 ; by TID; **run**;

**proc** **sort** data=tosrec7 ; by TID; **run**;

**proc** **sort** data=tosrec8 ; by TID; **run**;

**proc** **sort** data=tosrec9 ; by TID; **run**;

**proc** **sort** data=tosrec1012 ; by TID; **run**;

**data** merged; merge fluency tosrec1 tosrec2 tosrec3 tosrec4 tosrec5 tosrec6 tosrec7 tosrec8 tosrec9 tosrec1012;

by TID; **run**;

**proc** **import** datafile="C:\Sara\Florida\data\Wave 2 packlet coding\WAVE 2 DATA (from filemaker)\Twin Achievement Data\GATES\SPSS Data Files\Gates\_G1 (8212016).sav"

out=gates1 dbms = sav replace;

**run**;

**proc** **contents**; **run**;

**proc** **import** datafile="C:\Sara\Florida\data\Wave 2 packlet coding\WAVE 2 DATA (from filemaker)\Twin Achievement Data\GATES\SPSS Data Files\Gates\_G2 (8212016).sav"

out=gates2 dbms = sav replace;

**run**;

**proc** **contents**; **run**;

**proc** **import** datafile="C:\Sara\Florida\data\Wave 2 packlet coding\WAVE 2 DATA (from filemaker)\Twin Achievement Data\GATES\SPSS Data Files\Gates\_G3 (8212016).sav"

out=gates3 dbms = sav replace;

**run**;

**proc** **contents**; **run**;

**proc** **import** datafile="C:\Sara\Florida\data\Wave 2 packlet coding\WAVE 2 DATA (from filemaker)\Twin Achievement Data\GATES\SPSS Data Files\Gates\_G4 (8212016).sav"

out=gates4 dbms = sav replace;

**run**;

**proc** **contents**; **run**;

**proc** **import** datafile="C:\Sara\Florida\data\Wave 2 packlet coding\WAVE 2 DATA (from filemaker)\Twin Achievement Data\GATES\SPSS Data Files\Gates\_G5 (8212016).sav"

out=gates5 dbms = sav replace;

**run**;

**proc** **contents**; **run**;

**proc** **import** datafile="C:\Sara\Florida\data\Wave 2 packlet coding\WAVE 2 DATA (from filemaker)\Twin Achievement Data\GATES\SPSS Data Files\Gates\_G6 (8212016).sav"

out=gates6 dbms = sav replace;

**run**;

**proc** **contents**; **run**;

**proc** **import** datafile="C:\Sara\Florida\data\Wave 2 packlet coding\WAVE 2 DATA (from filemaker)\Twin Achievement Data\GATES\SPSS Data Files\Gates\_G789 (8212016).sav"

out=gates789 dbms = sav replace;

**run**;

**proc** **contents**; **run**;

**proc** **import** datafile="C:\Sara\Florida\data\Wave 2 packlet coding\WAVE 2 DATA (from filemaker)\Twin Achievement Data\GATES\SPSS Data Files\Gates\_G1012 (8212016).sav"

out=gates1012 dbms = sav replace;

**run**;

**proc** **contents**; **run**;

**proc** **sort** data=gates1 ; by TID; **run**;

**proc** **sort** data=gates2 ; by TID; **run**;

**proc** **sort** data=gates3 ; by TID; **run**;

**proc** **sort** data=gates4 ; by TID; **run**;

**proc** **sort** data=gates5 ; by TID; **run**;

**proc** **sort** data=gates6 ; by TID; **run**;

**proc** **sort** data=gates789 ; by TID; **run**;

**proc** **sort** data=gates1012 ; by TID; **run**;

**data** merged2; merge merged gates1 gates2 gates3 gates4 gates5 gates6 gates789 gates1012;

by TID; **run**;

**proc** **freq** data=merged2; tables TID; **run**;

**proc** **freq**; tables TOSREC\_G1\_Total TOSREC\_G2\_Total TOSREC\_G3\_Total TOSREC\_G4\_Total TOSREC\_G5\_Total TOSREC\_G6\_Total

TOSREC\_G7\_Total TOSREC\_G8\_Total TOSREC\_G9\_Total TOSREC\_G1012\_Total; **run**;

**data** combined; set merged2;

if TOSREC\_G1\_Total ne **.** then TOSREC\_Total = TOSREC\_G1\_Total;

if TOSREC\_G2\_Total ne **.** then TOSREC\_Total = TOSREC\_G2\_Total;

if TOSREC\_G3\_Total ne **.** then TOSREC\_Total = TOSREC\_G3\_Total;

if TOSREC\_G4\_Total ne **.** then TOSREC\_Total = TOSREC\_G4\_Total;

if TOSREC\_G5\_Total ne **.** then TOSREC\_Total = TOSREC\_G5\_Total;

if TOSREC\_G6\_Total ne **.** then TOSREC\_Total = TOSREC\_G6\_Total;

if TOSREC\_G7\_Total ne **.** then TOSREC\_Total = TOSREC\_G7\_Total;

if TOSREC\_G8\_Total ne **.** then TOSREC\_Total = TOSREC\_G8\_Total;

if TOSREC\_G9\_Total ne **.** then TOSREC\_Total = TOSREC\_G9\_Total;

if TOSREC\_G1012\_Total ne **.** then TOSREC\_Total = TOSREC\_G1012\_Total;

if GM\_G1\_Total ne **.** then GM\_Total = GM\_G1\_Total;

if GM\_G2\_Total ne **.** then GM\_Total = GM\_G2\_Total;

if GM\_G3\_Total ne **.** then GM\_Total = GM\_G3\_Total;

if GM\_G4\_Total ne **.** then GM\_Total = GM\_G4\_Total;

if GM\_G5\_Total ne **.** then GM\_Total = GM\_G5\_Total;

if GM\_G6\_Total ne **.** then GM\_Total = GM\_G6\_Total;

if GM\_G789\_Total ne **.** then GM\_Total = GM\_G789\_Total;

if GM\_G1012\_Total ne **.** then GM\_Total = GM\_G1012\_Total;

**run**;

**proc** **freq** data=combined; tables TID; **run**;

**proc** **corr** data=combined; var MF\_Total GM\_Total TOSREC\_Total TOSREC\_G1\_Total TOSREC\_G2\_Total TOSREC\_G3\_Total TOSREC\_G4\_Total TOSREC\_G5\_Total

TOSREC\_G6\_Total TOSREC\_G7\_Total TOSREC\_G8\_Total TOSREC\_G9\_Total TOSREC\_G1012\_Total

GM\_G1\_Total GM\_G2\_Total GM\_G3\_Total GM\_G4\_Total GM\_G5\_Total GM\_G6\_Total GM\_G789\_Total GM\_G1012\_Total; **run**;

**proc** **contents** data=combined; **run**;

\*\*\*bringing in 6 + 1 Ideas;

**proc** **import** datafile="C:\Sara\Florida\data\Wave 2 packlet coding\WAVE 2 DATA (from filemaker)\Twin Achievement Data\Writing\Ideas\Ideas Wave 2 (9222016).sav"

out=ideas dbms = sav replace;

**run**;

**proc** **print** data=ideas; var Score ; where ID = **89000** or ID = **273200** ; **run**;

**proc** **freq** data=ideas; tables score; **run**;

**proc** **contents** data=ideas; **run**;

**data** ideas2 (drop = score ID); set ideas;

IdeasScore = Score;

TID = ID;

**run**;

**proc** **freq** data=ideas2; tables ideasScore; **run**;

**data** ideas3; set ideas2;

array nvar(\*) \_numeric\_;

do i= **1** to dim(nvar);

if nvar(i) in(-**98**, -**99**, -**9**, -**35**) then nvar(i)= **.**;

end;

**run**;

**proc** **means**; var IdeasScore; **run**;

**proc** **sort** data=ideas3; by TID; **run**;

**proc** **sort** data=combined; by TID; **run**;

**data** combined2; merge combined ideas3 ; by TID; **run**;

**proc** **corr** data=combined2; var IdeasScore MF\_Total GM\_Total TOSREC\_Total TOSREC\_G1\_Total TOSREC\_G2\_Total TOSREC\_G3\_Total TOSREC\_G4\_Total TOSREC\_G5\_Total

TOSREC\_G6\_Total TOSREC\_G7\_Total TOSREC\_G8\_Total TOSREC\_G9\_Total TOSREC\_G1012\_Total

GM\_G1\_Total GM\_G2\_Total GM\_G3\_Total GM\_G4\_Total GM\_G5\_Total GM\_G6\_Total GM\_G789\_Total GM\_G1012\_Total; **run**;

\*\*\*pulling out single entered data for alpha coding;

libname data 'C:\Sara\Florida\data\Wave 2 packlet coding';

**data** data.singleachievementfull916; set combined2; **run**;

\*\*\*\*Making available in SPSS\*\*\*\*\*\*\*\*\*;

**PROC** **EXPORT** DATA=combined2

FILE="singleachievementfull916"

DBMS=SPSS REPLACE;

**RUN**;

\*\*bringing in cohmetrix;

**proc** **import** datafile="C:\Sara\Florida\data\Wave 2 packlet coding\WAVE 2 DATA (from filemaker)\Twin Achievement Data\Writing\Coh-metrix\Wave 2 Cohmetrix 92916.sav"

out=coh dbms = sav replace;

**run**;

**proc** **contents** data=coh; **run**;

**data** coh2 (drop= coder GenreGenre JobCodeJobCode DateDate SourceSource TimeTime TitleTitle V116-V121 id) ; set coh;

TID = ID;

**run**;

**proc** **contents** data=coh2; **run**;

**data** combined2a (keep=TID FID IdeasScore

Achievement\_Wave2MF\_Wscore MF\_Total Achievement\_Wave2MF\_SS

MF\_Total GM\_Total TOSREC\_Total

TOSREC\_G1\_Total TOSREC\_SS\_G1

TOSREC\_G2\_Total TOSREC\_SS\_G2

TOSREC\_G3\_Total TOSREC\_SS\_G3

TOSREC\_G4\_Total TOSREC\_SS\_G4

TOSREC\_G5\_Total TOSREC\_SS\_G5

TOSREC\_G6\_Total TOSREC\_SS\_G6

TOSREC\_G7\_Total TOSREC\_SS\_G7

TOSREC\_G8\_Total TOSREC\_SS\_G8

TOSREC\_G9\_Total TOSREC\_SS\_G9

TOSREC\_G1012\_Total TOSREC\_SS\_G1012

GM\_G1\_Total Gates\_SS\_G1

GM\_G2\_Total GM\_SS\_G2

GM\_G3\_Total GM\_SS\_G3

GM\_G4\_Total GM\_SS\_G4

GM\_G5\_Total GM\_SS\_G5

GM\_G6\_Total GM\_SS\_G6

GM\_G789\_Total GM\_SS\_G789 GM\_G1012\_Total GM\_SS\_G1012); set combined2; **run**;

**proc** **sort** data=coh2; by TID; **run**;

**proc** **sort** data=combined2a; by TID; **run**;

**data** combinedreal (drop=TID); merge combined2a coh2; by TID;

bg\_id = tid; **run**;

\*\*\*bringing in the registry info;

\*there are all sorts of variables I don't want in teh data, so got rid of them in SPSS and then brought in data;

**proc** **import** datafile="C:\Sara\Florida\data\Wave 2 packlet coding\Regmembers 12.02.16\_reduced.sav" out=registry dbms = sav replace;

**run**;

**proc** **contents** data=registry;

**run**;

\*\*bringing together the registry with the twin q data;

**proc** **sort** data=combinedreal; by bg\_id; **run**;

**proc** **sort** data=registry; by bg\_id; **run**;

**data** ach0516 /\*(drop = AIN BIN )\*/;

update registry(in=x) combinedreal (in=y);

by bg\_id;

AIN=x;

BIN=y;

id = BG\_ID;

if BIN=**1**;

**Run**;

**proc** **freq** data=ach0516; tables famid; **run**;

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*Creating Multivariate Dset\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

;

**data** as; set ach0516;

\*(here is the code from lisa to double enter to the point where would need to set for full double entry...so really, single entered, but full fam on a line;

%***appendTwin***(as,cqih1,**0**,b);

**data** cqihOdd1; set cqih1; if twinid = **1**; **run**;

**proc** **sort**; by famid; **run**;

**data** cqihEven1; set cqih1; if twinid = **0**; **run**;

**proc** **sort**; by famid; **run**;

%***appendTwin***(as,cqih2,**1**,b);

**data** cqihOdd2; set cqih2; if twinid = **1**; **run**;

**proc** **sort**; by famid; **run**;

**data** cqihEven2; set cqih2; if twinid = **0**; **run**;

**proc** **sort**; by famid; **run**;

\*\*\*\* merge for first round -- odd twin = 1 and even twin = 2 \*\*\*\*;

**data** asSEa; merge cqihOdd1(in=a) cqihEven2(in=b); by famid;

**run**;

\*\*\*\* (sharts code) merge for first round -- odd twin = 2 and even twin = 1 \*\*\*\*;

**data** asSEb; merge cqihEven1(in=a) cqihOdd2(in=b); by famid;

**run**;

\*more shart's code;

**data** multiachievement0916; set asSEa asseb;

by famid;

**run**;

\* appendTwin

adds twin # to end of each non-identifying var name, creates new dset dsetOut

does add twin # to sid and subid

\*\*\*\* watch log for warnings about there already being a var with that name in the dset. if so, try using appendTwinUnderscore instead;

**%macro** appendTwin(dsetIn,dsetOut,t,w);

data &dsetOut.; set &dsetIn.; run; \*initialize new dset since it gets set on itself below;

proc contents data=&dsetIn. out=varList noprint; run;

proc sort data=varList; by descending NAME; run; /\*sort descending so adding a

1 or 2 doesn't create a var name that exists but will be changed later down the list - change the higher #s first;\*/

data \_NULL\_; set varList;

call symput('nl' , \_N\_);

run;

%do d=**1** %to &nl.;

data varList;

set varList;

if \_N\_=**1** then do;

call symput('varName',lowcase(strip(NAME)));

end;

run;

data varList;

set varList;

if \_N\_=**1** then delete;

run;

%if &varName. ne famid and &varName. ne pair\_gender and &varName. ne twinid and &varName. ne zyg\_par and &varName. ne zygparsum and &varName. ne gender\_master and &varName. ne multiple and &varName. ne fid

%then %do;

data &dsetOut.;

set &dsetOut.;

rename &varName.=&w.&varName.&t.;

run;

%end;

%end;

**%mend** appendTwin;

**data** multiachievement0916; set multiachievement0916;

rename bbg\_id0=bg\_id0

bbg\_id1=bg\_id1;

**run**;

**proc** **freq** data=multiachievement0916; tables famid bg\_id0 bg\_id1; **run**;

\*\*\*bringing in processing date to create age;

**PROC** **IMPORT** OUT= WORK.age DATAFILE= "C:\Sara\Florida\data\Wave 2 packlet coding\WAVE 2 DATA (from filemaker)\Processing Dates (for age variable)\W2 Processing Dates (for age) - 972016.xlsx"

DBMS=xlsx REPLACE;

GETNAMES=YES;

**RUN**;

**data** age2; set age;

BG\_ID0 = tid;

**run**;

**proc** **sort** data=multiachievement0916; by BG\_ID0; **run**;

**proc** **sort** data=age2; by BG\_ID0; **run**;

**data** multiachievement0916b(drop= tid );

merge multiachievement0916(in=x) age2 (in=y);

by BG\_ID0;

AIN=x;

BIN=y;

if AIN = **1** ;

AchievementW2\_age = (ProcessingDate-dob21 )/**365.25**;

**Run**;

**proc** **print** data=multiachievement0916b; var famid AchievementW2\_age ProcessingDate dob21; where famid = **3189**; **run**;

**proc** **means**; var AchievementW2\_age; **run**;

**proc** **contents**; **run**;

libname data 'C:\Sara\Florida\data\Wave 2 packlet coding\WAVE 2 DATA (from filemaker)\Twin Achievement Data';

**data** data.multiachievement0916; set multiachievement0916b; **run**;

LIBNAME mydata2 "C:\Sara\Florida\data\Wave 2 packlet coding\WAVE 2 DATA (from filemaker)\Twin Achievement Data";

**PROC** **EXPORT** DATA=multiachievement0916b

FILE="multiachievement0916"

DBMS=SPSS REPLACE;

**RUN**;

\*\*\*\*Making PMRN available in SPSS\*\*\*\*\*\*\*\*\*;

LIBNAME mydata3 "C:\Sara\Florida\data\Wave 2 packlet coding";

**PROC** **EXPORT** DATA=mydata3.multipmrn0616

FILE="multipmrn0616"

DBMS=SPSS REPLACE;

**RUN**;

\*\*\*\*\*\*\*playing with some analyses to see how data are behaving;

**proc** **sort** data=MULTITWINQ0516; by bg\_id1; **run**;

**proc** **sort** data=multiachievement0616b; by bg\_id1; **run**;

**proc** **contents** data=MULTITWINQ0516; **run**;

**proc** **sort** data=data.multipmrn0616; by bg\_id1; **run**;

**proc** **contents** data=data.multipmrn0616; **run**;

**data** combined; merge MULTITWINQ0516 multiachievement0616 data.multipmrn0616;

by bg\_id1; **run**;

ods pdf file = "C:\Sara\Florida\data\Wave 2 packlet coding\toJTcorrelations6916.pdf" style=theme;

**proc** **corr** data=combined; var MF\_Total21 GM\_Total21 TOSREC\_Total21 fcat\_dss\_13141 ; with NEStotal21 info\_sharing\_total21 info\_sharing\_shares21 info\_sharing\_hides21

ARTtpe21 PALS\_teachermastery21 PALS\_teacherapproach21 PALS\_teacheravoid21 PALS\_classroommaster21

PALS\_classroomapproach21 PALS\_classroomavoid21 PALS\_parentperformance21 PALS\_parentdissonance21 P\_panas\_PA21 P\_panas\_NA21

cadsyv\_dis21 cadsyv\_resp21 cadsyv\_soc21 cadsyv\_neg21 cadsyv\_pro21 cadsyv\_dar21 cadsyv\_pos21 friends\_good21 friends\_school21

friends\_bad21 friends1921 DWECKtotal21 DWECKentity21 DWECKincremental21 GRITtotal21 GRITconsistency21 GRITperseverance21

MF\_Total21 GM\_Total21 TOSREC\_Total21 ;**run**;

ods pdf close;

libname old 'C:\Sara\Florida\data\Coding 12\_13 Q data\final questionnaire data';

**data** oldQ; set old.multiparentq0614c; **run**;

**proc** **contents** data=oldQ; **run**;

**data** oldQ2 (keep=bg\_id1 p\_brief\_behreg1 p\_brief\_inhib1 p\_brief\_initiate1 p\_brief\_meta1 p\_brief\_monitor1 p\_brief\_plan1

p\_brief\_shift1 p\_brief\_wm1); set oldQ; **run**;

**data** ach (keep=bg\_id1 MF\_Total21 GM\_Total21 TOSREC\_Total21 fcat\_dss\_13141 ); set combined; **run**;

**proc** **sort** data=ach; by bg\_id1; **run**;

**proc** **sort** data=oldQ2; by bg\_id1; **run**;

**data** tomia; merge ach oldQ2;

by bg\_id1; **run**;

**proc** **corr** data=tomia; var p\_brief\_behreg1 p\_brief\_inhib1 p\_brief\_initiate1 p\_brief\_meta1 p\_brief\_monitor1 p\_brief\_plan1

p\_brief\_shift1 p\_brief\_wm1; with MF\_Total21 GM\_Total21 TOSREC\_Total21 fcat\_dss\_13141; **run**;

**proc** **export** data=tomia outfile='C:\Sara\Florida\data\Wave 2 packlet coding\MiaEfandachievement616.xlsx' dbms = xlsx replace;

**run**;