Data written to the working file.17 variables and 2111 cases written.Variable: Gender Type: String Format : A6Variable: Age Type: Number Format : F9.6Variable: Height Type: Number Format : F8.6Variable: Weight Type: Number Format : F10.6Variable: family\_history\_with\_overweight Type: String Format : A3Variable: FAVC Type: String Format : A3Variable: FCVC Type: Number Format : F8.6Variable: NCP Type: Number Format : F8.6Variable: CAEC Type: String Format : A10Variable: SMOKE Type: String Format : A3Variable: CH2O Type: Number Format : F8.6Variable: SCC Type: String Format : A3Variable: FAF Type: Number Format : F8.6Variable: TUE Type: Number Format : F8.6Variable: CALC Type: String Format : A10Variable: MTRANS Type: String Format : A21Variable: NObeyesdad Type: String Format : A19Substitute the following to build syntax for these data. /VARIABLES= Gender A6 Age F9.6 Height F8.6 Weight F10.6 family\_history\_with\_overweight A3 FAVC A3 FCVC F8.6 NCP F8.6 CAEC A10 SMOKE A3 CH2O F8.6 SCC A3 FAF F8.6 TUE F8.6 CALC A10 MTRANS A21 NObeyesdad A19

요인분석

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| --- | --- | --- |
| **노트** |  |  |
| 작성된 출력결과 |  | 16-AUG-2024 22:32:34 |
| 주석 |  |  |
| 입력 | 데이터 | C:\Users\aj\Downloads\estimation+of+obesity+levels+based+on+eating+habits+and+physical+condition\데이터.sav |
| 활성 데이터 세트 | 데이터세트1 |
| 필터 | <없음> |
| 가중 | <없음> |
| 분할 파일 | <없음> |
| 작업 데이터 파일의 행 수 | 2111 |
| 결측값 처리 | 결측값 정의 | MISSING=EXCLUDE: 사용자 정의 결측값이 결측으로 처리됩니다. |
| 사용 케이스 | LISTWISE: 통계량은 사용한 변수에 대해 결측값이 없는 케이스를 기준으로 산출합니다. |
| 명령문 |  | FACTOR /VARIABLES Gender Age Height Weight family\_history\_with\_overweight FAVC FCVC NCP CAEC SMOKE CH2O SCC FAF TUE CALC MTRANS /MISSING LISTWISE /ANALYSIS Gender Age Height Weight family\_history\_with\_overweight FAVC FCVC NCP CAEC SMOKE CH2O SCC FAF TUE CALC MTRANS /PRINT UNIVARIATE INITIAL CORRELATION KMO COVARIANCE EXTRACTION ROTATION /FORMAT SORT /CRITERIA MINEIGEN(1) ITERATE(25) /EXTRACTION ML /CRITERIA KAISER ITERATE(25) DELTA(0) /ROTATION OBLIMIN /SAVE REG(ALL). |
| 사용된 자원 | 프로세서 시간 | 00:00:00.08 |
| 경과 시간 | 00:00:00.08 |
| 최대 요구 메모리 | 34320 (33.516K) 바이트 |
| 생성된 변수 | FAC1\_1 | 회귀 요인점수 1 |
| FAC2\_1 | 회귀 요인점수 2 |
| FAC3\_1 | 회귀 요인점수 3 |
| FAC4\_1 | 회귀 요인점수 4 |
| FAC5\_1 | 회귀 요인점수 5 |
| FAC6\_1 | 회귀 요인점수 6 |

[데이터세트1] C:\Users\aj\Downloads\estimation+of+obesity+levels+based+on+eating+habits+and+physical+condition\데이터.sav

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| **기술통계량** |  |  |  |
|  | 평균 | 표준편차 | 분석수 |
| Gender | .51 | .500 | 2111 |
| Age | 24.31259991 | 6.345968274 | 2111 |
| Height | 1.70167735 | .093304820 | 2111 |
| Weight | 86.58605813 | 26.191171745 | 2111 |
| family\_history\_with\_overweight | .82 | .386 | 2111 |
| FAVC | .88 | .320 | 2111 |
| FCVC | 2.41904306 | .533926579 | 2111 |
| NCP | 2.68562805 | .778038649 | 2111 |
| CAEC | 1.14 | .469 | 2111 |
| SMOKE | .02 | .143 | 2111 |
| CH2O | 2.00801140 | .612953452 | 2111 |
| SCC | .05 | .208 | 2111 |
| FAF | 1.01029770 | .850592431 | 2111 |
| TUE | .65786592 | .608927260 | 2111 |
| CALC | .73 | .515 | 2111 |
| MTRANS | 1.64 | 1.263 | 2111 |

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| **공분산 행렬** |  |  |  |  |  |
|  | Gender | Age | Height | Weight | family\_history\_with\_overweight |
| Gender | .250 | .154 | .029 | 2.117 | .020 |
| Age | .154 | 40.271 | -.015 | 33.667 | .504 |
| Height | .029 | -.015 | .009 | 1.132 | .009 |
| Weight | 2.117 | 33.667 | 1.132 | 685.977 | 5.026 |
| family\_history\_with\_overweight | .020 | .504 | .009 | 5.026 | .149 |
| FAVC | .010 | .130 | .005 | 2.285 | .026 |
| FCVC | -.073 | .055 | -.002 | 3.022 | .008 |
| NCP | .026 | -.217 | .018 | 2.190 | .021 |
| CAEC | -.021 | -.249 | -.002 | -3.528 | -.031 |
| SMOKE | .003 | .083 | .001 | .096 | .001 |
| CH2O | .033 | -.176 | .012 | 3.220 | .035 |
| SCC | -.011 | -.154 | -.003 | -1.102 | -.015 |
| FAF | .081 | -.782 | .023 | -1.146 | -.019 |
| TUE | .005 | -1.147 | .003 | -1.141 | .005 |
| CALC | -.002 | .146 | .006 | 2.790 | -.007 |
| MTRANS | .087 | 4.826 | .008 | -.190 | .048 |

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| **공분산 행렬** |  |  |  |  |  |  |
|  | FAVC | FCVC | NCP | CAEC | SMOKE | CH2O |
| Gender | .010 | -.073 | .026 | -.021 | .003 | .033 |
| Age | .130 | .055 | -.217 | -.249 | .083 | -.176 |
| Height | .005 | -.002 | .018 | -.002 | .001 | .012 |
| Weight | 2.285 | 3.022 | 2.190 | -3.528 | .096 | 3.220 |
| family\_history\_with\_overweight | .026 | .008 | .021 | -.031 | .001 | .035 |
| FAVC | .103 | -.005 | -.002 | -.023 | -.002 | .002 |
| FCVC | -.005 | .285 | .018 | .014 | .001 | .022 |
| NCP | -.002 | .018 | .605 | .036 | .001 | .027 |
| CAEC | -.023 | .014 | .036 | .220 | .004 | -.042 |
| SMOKE | -.002 | .001 | .001 | .004 | .020 | -.003 |
| CH2O | .002 | .022 | .027 | -.042 | -.003 | .376 |
| SCC | -.013 | .008 | -.003 | .011 | .001 | .001 |
| FAF | -.029 | .009 | .086 | .012 | .001 | .087 |
| TUE | .013 | -.033 | .017 | .014 | .002 | .004 |
| CALC | .015 | .017 | .029 | -.011 | .006 | .029 |
| MTRANS | .029 | -.043 | .052 | -.027 | .002 | -.035 |

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| **공분산 행렬** |  |  |  |  |  |
|  | SCC | FAF | TUE | CALC | MTRANS |
| Gender | -.011 | .081 | .005 | -.002 | .087 |
| Age | -.154 | -.782 | -1.147 | .146 | 4.826 |
| Height | -.003 | .023 | .003 | .006 | .008 |
| Weight | -1.102 | -1.146 | -1.141 | 2.790 | -.190 |
| family\_history\_with\_overweight | -.015 | -.019 | .005 | -.007 | .048 |
| FAVC | -.013 | -.029 | .013 | .015 | .029 |
| FCVC | .008 | .009 | -.033 | .017 | -.043 |
| NCP | -.003 | .086 | .017 | .029 | .052 |
| CAEC | .011 | .012 | .014 | -.011 | -.027 |
| SMOKE | .001 | .001 | .002 | .006 | .002 |
| CH2O | .001 | .087 | .004 | .029 | -.035 |
| SCC | .043 | .013 | -.001 | .000 | -.011 |
| FAF | .013 | .724 | .030 | -.038 | -.011 |
| TUE | -.001 | .030 | .371 | -.014 | -.138 |
| CALC | .000 | -.038 | -.014 | .266 | -.009 |
| MTRANS | -.011 | -.011 | -.138 | -.009 | 1.594 |

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| **상관행렬** |  |  |  |  |  |  |
|  |  | Gender | Age | Height | Weight | family\_history\_with\_overweight |
| 상관관계 | Gender | 1.000 | .048 | .618 | .162 | .103 |
| Age | .048 | 1.000 | -.026 | .203 | .206 |
| Height | .618 | -.026 | 1.000 | .463 | .248 |
| Weight | .162 | .203 | .463 | 1.000 | .497 |
| family\_history\_with\_overweight | .103 | .206 | .248 | .497 | 1.000 |
| FAVC | .065 | .064 | .178 | .272 | .208 |
| FCVC | -.275 | .016 | -.038 | .216 | .040 |
| NCP | .068 | -.044 | .244 | .107 | .071 |
| CAEC | -.092 | -.084 | -.049 | -.287 | -.170 |
| SMOKE | .045 | .092 | .055 | .026 | .017 |
| CH2O | .108 | -.045 | .213 | .201 | .147 |
| SCC | -.103 | -.116 | -.134 | -.202 | -.185 |
| FAF | .190 | -.145 | .295 | -.051 | -.057 |
| TUE | .017 | -.297 | .052 | -.072 | .023 |
| CALC | -.008 | .044 | .130 | .207 | -.037 |
| MTRANS | .137 | .602 | .072 | -.006 | .099 |

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| **상관행렬** |  |  |  |  |  |  |
|  |  | FAVC | FCVC | NCP | CAEC | SMOKE |
| 상관관계 | Gender | .065 | -.275 | .068 | -.092 | .045 |
| Age | .064 | .016 | -.044 | -.084 | .092 |
| Height | .178 | -.038 | .244 | -.049 | .055 |
| Weight | .272 | .216 | .107 | -.287 | .026 |
| family\_history\_with\_overweight | .208 | .040 | .071 | -.170 | .017 |
| FAVC | 1.000 | -.027 | -.007 | -.150 | -.051 |
| FCVC | -.027 | 1.000 | .042 | .055 | .014 |
| NCP | -.007 | .042 | 1.000 | .098 | .008 |
| CAEC | -.150 | .055 | .098 | 1.000 | .055 |
| SMOKE | -.051 | .014 | .008 | .055 | 1.000 |
| CH2O | .010 | .068 | .057 | -.145 | -.032 |
| SCC | -.191 | .072 | -.016 | .109 | .048 |
| FAF | -.108 | .020 | .130 | .030 | .011 |
| TUE | .068 | -.101 | .036 | .049 | .018 |
| CALC | .090 | .061 | .072 | -.048 | .082 |
| MTRANS | .071 | -.064 | .053 | -.045 | .013 |

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| **상관행렬** |  |  |  |  |  |  |
|  |  | CH2O | SCC | FAF | TUE | CALC |
| 상관관계 | Gender | .108 | -.103 | .190 | .017 | -.008 |
| Age | -.045 | -.116 | -.145 | -.297 | .044 |
| Height | .213 | -.134 | .295 | .052 | .130 |
| Weight | .201 | -.202 | -.051 | -.072 | .207 |
| family\_history\_with\_overweight | .147 | -.185 | -.057 | .023 | -.037 |
| FAVC | .010 | -.191 | -.108 | .068 | .090 |
| FCVC | .068 | .072 | .020 | -.101 | .061 |
| NCP | .057 | -.016 | .130 | .036 | .072 |
| CAEC | -.145 | .109 | .030 | .049 | -.048 |
| SMOKE | -.032 | .048 | .011 | .018 | .082 |
| CH2O | 1.000 | .008 | .167 | .012 | .091 |
| SCC | .008 | 1.000 | .074 | -.011 | .003 |
| FAF | .167 | .074 | 1.000 | .059 | -.087 |
| TUE | .012 | -.011 | .059 | 1.000 | -.046 |
| CALC | .091 | .003 | -.087 | -.046 | 1.000 |
| MTRANS | -.045 | -.042 | -.010 | -.180 | -.013 |

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| **상관행렬** |  |  |
|  |  | MTRANS |
| 상관관계 | Gender | .137 |
| Age | .602 |
| Height | .072 |
| Weight | -.006 |
| family\_history\_with\_overweight | .099 |
| FAVC | .071 |
| FCVC | -.064 |
| NCP | .053 |
| CAEC | -.045 |
| SMOKE | .013 |
| CH2O | -.045 |
| SCC | -.042 |
| FAF | -.010 |
| TUE | -.180 |
| CALC | -.013 |
| MTRANS | 1.000 |

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| **KMO와 Bartlett의 검정** |  |  |
| 표본 적절성의 Kaiser-Meyer-Olkin 측도. |  | .582 |
| Bartlett의 구형성 검정 | 근사 카이제곱 | 5924.279 |
| 자유도 | 120 |
| 유의확률 | <.001 |

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| **공통성**a |  |  |
|  | 초기 | 추출 |
| Gender | .477 | .547 |
| Age | .491 | .999 |
| Height | .619 | .988 |
| Weight | .552 | .761 |
| family\_history\_with\_overweight | .307 | .997 |
| FAVC | .143 | .175 |
| FCVC | .186 | .385 |
| NCP | .098 | .101 |
| CAEC | .155 | .370 |
| SMOKE | .037 | .023 |
| CH2O | .110 | .174 |
| SCC | .095 | .122 |
| FAF | .191 | .323 |
| TUE | .120 | .118 |
| CALC | .106 | .114 |
| MTRANS | .425 | .422 |

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| 추출 방법: 최대우도.a |  |  |
| a. 반복계산 중 1보다 큰 하나 이상의 공통성 추정량이 나타났습니다. 결과해법은 주의하여 해석해야 합니다. |  |  |

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| **설명된 총분산** |  |  |  |  |  |  |  |
| 요인 | 초기 고유값 |  |  | 추출 제곱합 적재량 |  |  | 회전 제곱합 적재량a |
| 전체 | % 분산 | 누적 % | 전체 | % 분산 | 누적 % | 전체 |
| 1 | 2.603 | 16.270 | 16.270 | 1.660 | 10.378 | 10.378 | 1.505 |
| 2 | 1.867 | 11.670 | 27.940 | 1.406 | 8.788 | 19.165 | 1.733 |
| 3 | 1.530 | 9.560 | 37.501 | 1.606 | 10.035 | 29.200 | 1.248 |
| 4 | 1.357 | 8.481 | 45.982 | .884 | 5.523 | 34.722 | 1.301 |
| 5 | 1.125 | 7.032 | 53.015 | .655 | 4.095 | 38.818 | .631 |
| 6 | 1.066 | 6.664 | 59.679 | .405 | 2.530 | 41.348 | 1.053 |
| 7 | .982 | 6.135 | 65.814 |  |  |  |  |
| 8 | .870 | 5.437 | 71.251 |  |  |  |  |
| 9 | .820 | 5.123 | 76.374 |  |  |  |  |
| 10 | .788 | 4.924 | 81.297 |  |  |  |  |
| 11 | .759 | 4.743 | 86.041 |  |  |  |  |
| 12 | .685 | 4.282 | 90.323 |  |  |  |  |
| 13 | .602 | 3.760 | 94.083 |  |  |  |  |
| 14 | .401 | 2.504 | 96.587 |  |  |  |  |
| 15 | .328 | 2.050 | 98.637 |  |  |  |  |
| 16 | .218 | 1.363 | 100.000 |  |  |  |  |

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| 추출 방법: 최대우도. |  |  |  |  |  |  |  |
| a. 요인이 상관된 경우 전체 분산을 구할 때 제곱합 적재량이 추가될 수 없습니다. |  |  |  |  |  |  |  |

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| **요인행렬**a |  |  |  |  |  |  |
|  | 요인 |  |  |  |  |  |
| 1 | 2 | 3 | 4 | 5 | 6 |
| Age | .993 | -.114 | .008 | .000 | .000 | .000 |
| MTRANS | .596 | -.087 | .103 | -.217 | -.016 | .036 |
| TUE | -.285 | .120 | .013 | -.102 | -.052 | -.090 |
| SMOKE | .091 | -.008 | .061 | -.021 | .086 | -.052 |
| family\_history\_with\_overweight | .316 | .945 | -.071 | -.003 | .001 | .000 |
| Height | .005 | .331 | .937 | -.007 | .006 | -.003 |
| Gender | .059 | .134 | .613 | -.249 | -.288 | .070 |
| NCP | -.034 | .103 | .222 | -.010 | .195 | -.029 |
| Weight | .255 | .468 | .333 | .602 | -.067 | .000 |
| CALC | .039 | -.039 | .154 | .277 | .005 | -.098 |
| FCVC | .021 | .033 | -.053 | .403 | .461 | .079 |
| CAEC | -.101 | -.147 | -.005 | -.271 | .425 | -.289 |
| FAVC | .087 | .201 | .120 | .180 | -.215 | -.185 |
| SCC | -.135 | -.158 | -.088 | -.082 | .212 | .138 |
| FAF | -.147 | .012 | .310 | -.185 | .187 | .369 |
| CH2O | -.027 | .178 | .167 | .126 | .017 | .313 |

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| 추출 방법: 최대우도.a |  |  |  |  |  |  |
| a. 6 요인 추출을 시도했습니다. 25 넘는 반복계산이 요구됩니다. (수렴=.064). 추출이 종료됩니다. |  |  |  |  |  |  |

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| **패턴 행렬**a |  |  |  |  |  |  |
|  | 요인 |  |  |  |  |  |
| 1 | 2 | 3 | 4 | 5 | 6 |
| Age | .967 | .120 | .017 | .008 | -.001 | -.116 |
| MTRANS | .612 | .039 | .184 | -.137 | .067 | -.008 |
| TUE | -.318 | .060 | .097 | -.056 | .056 | -.044 |
| family\_history\_with\_overweight | .030 | 1.058 | -.093 | -.200 | .058 | .048 |
| Gender | .057 | -.020 | .661 | .084 | .053 | .267 |
| Height | -.060 | .097 | .547 | .409 | .358 | .447 |
| FCVC | .021 | .059 | -.541 | .222 | .151 | .165 |
| Weight | .070 | .401 | -.084 | .603 | -.080 | .180 |
| CALC | .010 | -.084 | -.033 | .351 | .020 | -.018 |
| FAVC | -.038 | .174 | .135 | .271 | -.053 | -.138 |
| SCC | -.036 | -.155 | -.158 | -.161 | .060 | .124 |
| CAEC | -.077 | -.096 | -.088 | -.156 | .534 | -.180 |
| NCP | -.050 | .060 | .013 | .072 | .246 | .130 |
| SMOKE | .084 | .011 | .001 | .021 | .118 | -.012 |
| FAF | -.025 | -.097 | .106 | -.157 | .099 | .514 |
| CH2O | -.007 | .103 | -.028 | .046 | -.125 | .382 |

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| 추출 방법: 최대우도. 회전 방법: 카이저 정규화가 있는 오블리민. a |  |  |  |  |  |  |
| a. 23 반복계산에서 요인회전이 수렴되었습니다. |  |  |  |  |  |  |

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| **구조행렬** |  |  |  |  |  |  |
|  | 요인 |  |  |  |  |  |
| 1 | 2 | 3 | 4 | 5 | 6 |
| Age | .986 | .204 | .042 | .143 | .016 | -.165 |
| MTRANS | .605 | .081 | .189 | -.047 | .094 | -.040 |
| TUE | -.313 | .025 | .103 | -.073 | .030 | -.014 |
| family\_history\_with\_overweight | .101 | .975 | .118 | .145 | -.031 | .105 |
| SCC | -.074 | -.239 | -.193 | -.210 | .092 | .097 |
| Gender | .054 | .163 | .675 | .151 | .102 | .311 |
| Height | -.013 | .336 | .612 | .513 | .415 | .586 |
| FCVC | .045 | .018 | -.508 | .233 | .165 | .192 |
| Weight | .159 | .605 | .040 | .757 | -.093 | .260 |
| CALC | .044 | .020 | -.032 | .321 | .023 | .019 |
| FAVC | .015 | .281 | .178 | .314 | -.093 | -.092 |
| CAEC | -.068 | -.234 | -.121 | -.226 | .513 | -.124 |
| NCP | -.033 | .068 | .037 | .100 | .257 | .184 |
| SMOKE | .094 | .013 | .005 | .032 | .119 | .004 |
| FAF | -.077 | -.100 | .102 | -.125 | .188 | .510 |
| CH2O | -.022 | .151 | .012 | .124 | -.077 | .376 |

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| 추출 방법: 최대우도. 회전 방법: 카이저 정규화가 있는 오블리민. |  |  |  |  |  |  |

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| **요인 상관행렬** |  |  |  |  |  |  |
| 요인 | 1 | 2 | 3 | 4 | 5 | 6 |
| 1 | 1.000 | .090 | .006 | .113 | .047 | -.061 |
| 2 | .090 | 1.000 | .207 | .322 | -.094 | .073 |
| 3 | .006 | .207 | 1.000 | .054 | .008 | .047 |
| 4 | .113 | .322 | .054 | 1.000 | -.008 | .118 |
| 5 | .047 | -.094 | .008 | -.008 | 1.000 | .152 |
| 6 | -.061 | .073 | .047 | .118 | .152 | 1.000 |

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| 추출 방법: 최대우도. 회전 방법: 카이저 정규화가 있는 오블리민. |  |  |  |  |  |  |