# **NCVS Analyses and Tables (Unweighted)**

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Social Crimes (Co-offending + Observed

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**Pre-Analysis Validity Checks**

1. **Proportion of Co-Offenses Involving an Age Gap Between Offenders**  
   Counts and percentage of co-offenses where the youngest and oldest offenders differ by at least one age group. *This helps assess whether assigning offenses to both groups might overlook intermediate age categories.*

| **Gap Size** | **Frequency** |
| --- | --- |
| 2 groups apart | 171 |
| 3 groups apart | 88 |
| 4 groups apart | 41 |
| 5 groups apart | 24 |
| Total with Age Gap | 324 |
| Proportion of Total | 0.11 |

1. **Percentages of co-offense age partners for each offender age group.**

| **Offender Age** | **Co-Offender Age Group (%)** | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
|  | **<12** | **12-14** | **15-17** | **18-20** | **21-29** | **30+** |
| **<12** | 48 | 26.3 | 6.7 | 2.2 | 3.4 | 13.4 |
| **12-14** | 9.6 | 59.3 | 17 | 4.3 | 2.7 | 7.2 |
| **15-17** | 1.6 | 11.3 | 54.9 | 15 | 7.4 | 9.7 |
| **18-20** | 0.5 | 2.8 | 14.5 | 48.3 | 22.8 | 11.1 |
| **21-29** | 0.4 | 0.8 | 3.2 | 10.3 | 62.6 | 22.7 |
| **30+** | 1.2 | 1.7 | 3.4 | 4 | 18.3 | 71.5 |

**Descriptive Crime Role Distributions by Age Group:**

| **Age Group** | **Alone** | **Group** | **Observed** | **Total** |
| --- | --- | --- | --- | --- |
| <12 | 261 | 139 | 91 | 491 |
| 12-14 | 515 | 347 | 367 | 1,229 |
| 15-17 | 620 | 551 | 379 | 1,550 |
| 18-20 | 794 | 597 | 328 | 1,719 |
| 21-29 | 3,329 | 1,226 | 1,328 | 5,883 |
| 30+ | 7,413 | 1,338 | 2,781 | 11,532 |
| Total | 12,932 | 4,198 | 5,274 | 22,404 |

**A graph of a number of people

AI-generated content may be incorrect.**

1. *Attributing co-offenses to youngest* ***and*** *oldest present.*

| **Age Group** | **Alone (%)** | **Group (%)** | **Observed (%)** |
| --- | --- | --- | --- |
| <12 | 53.2 | 28.3 | 18.5 |
| 12-14 | 41.9 | 28.2 | 29.9 |
| 15-17 | 40 | 35.5 | 24.5 |
| 18-20 | 46.2 | 34.7 | 19.1 |
| 21-29 | 56.6 | 20.8 | 22.6 |
| 30+ | 64.3 | 11.6 | 24.1 |

**Analyses of difference in proportion of crimes committed alone between age groups**

1. **Chi Squared of solo crime committed in each age group**

**Note -** A chi-squared test measures whether there's a **significant difference between expected and observed frequencies** in categorical data — in this case, whether age groups differ in how often they commit crimes alone. I had R produce these tables ascending P value size (the significance of the difference between groups gets smaller as you go down the table) so that we can quickly visualize the largest differences.

1. *Attributing co-offenses to youngest* ***and*** *oldest present.*

| **Age Group 1** | **Age Group 2** | **Chi-Square (χ²)** | **df** | **Phi** | **p** | **p (Bonferroni)** | |
| --- | --- | --- | --- | --- | --- | --- | --- |
| ALL | vs. all | 600.263 | 5 |  | 0.0000 |  |
| <12 | 12-14 | 18.097 | 1 | 0.103 | 0.0000 | 0.0000 |
| <12 | 15-17 | 24.743 | 1 | 0.111 | 0.0000 | 0.0000 |
| <12 | 30+ | 23.185 | 1 | 0.044 | 0.0000 | 0.0000 |
| 12-14 | 21-29 | 95.382 | 1 | 0.116 | 0.0000 | 0.0000 |
| 12-14 | 30+ | 232.788 | 1 | 0.135 | 0.0000 | 0.0000 |
| 15-17 | 21-29 | 137.073 | 1 | 0.137 | 0.0000 | 0.0000 |
| 15-17 | 30+ | 321.035 | 1 | 0.157 | 0.0000 | 0.0000 |
| 18-20 | 21-29 | 58.604 | 1 | 0.088 | 0.0000 | 0.0000 |
| 18-20 | 30+ | 191.482 | 1 | 0.120 | 0.0000 | 0.0000 |
| 21-29 | 30+ | 78.724 | 1 | 0.067 | 0.0000 | 0.0000 |
| 15-17 | 18-20 | 12.577 | 1 | 0.062 | 0.0004 | 0.0060 |
| <12 | 18-20 | 6.538 | 1 | 0.055 | 0.0106 | 0.1590 |
| 12-14 | 18-20 | 6.390 | 1 | 0.047 | 0.0115 | 0.1725 |
| <12 | 21-29 | 2.573 | 1 | 0.020 | 0.1087 | 1.0000 |
| 12-14 | 15-17 | 0.559 | 1 | 0.014 | 0.4548 | 1.0000 |

**Logistic Regression Analyses Predicting Likelihood of Solo Offending by Age Group**

1. **Logistic Regression Predicting Solo Offending, Reference Group: Ages 15–17**
2. *Attributing co-offenses to youngest* ***and*** *oldest present.*

| **Age Group** | **Odds Ratio** | **Std. Error** | **z** | **p** | **CI Lower** | **CI Upper** |
| --- | --- | --- | --- | --- | --- | --- |
| Intercept (15–17) | 0.68 | 0.05 | -7.37 | 0.0000 | 0.61 | 0.75 |
| <12 | 1.69 | 0.10 | 5.00 | 0.0000 | 1.38 | 2.07 |
| 12-14 | 1.06 | 0.08 | 0.79 | 0.4316 | 0.91 | 1.24 |
| 18-20 | 1.29 | 0.07 | 3.58 | 0.0003 | 1.12 | 1.48 |
| 21-29 | 1.97 | 0.06 | 11.62 | 0.0000 | 1.76 | 2.21 |
| 30+ | 2.64 | 0.06 | 17.48 | 0.0000 | 2.37 | 2.95 |

1. **Logistic Regression Predicting Solo Offending, Reference Group: Ages 18–20**
2. *Attributing co-offenses to youngest* ***and*** *oldest present.*

| **Age Group** | **Odds Ratio** | **Std. Error** | **z** | **p** | **CI Lower** | **CI Upper** |
| --- | --- | --- | --- | --- | --- | --- |
| Intercept (18–20) | 0.88 | 0.05 | -2.64 | 0.0082 | 0.80 | 0.97 |
| <12 | 1.31 | 0.10 | 2.60 | 0.0092 | 1.07 | 1.60 |
| 12-14 | 0.82 | 0.08 | -2.56 | 0.0103 | 0.71 | 0.96 |
| 15-17 | 0.77 | 0.07 | -3.58 | 0.0003 | 0.67 | 0.89 |
| 21-29 | 1.53 | 0.06 | 7.66 | 0.0000 | 1.37 | 1.70 |
| 30+ | 2.05 | 0.05 | 13.67 | 0.0000 | 1.85 | 2.27 |

**Violent crime data**

**Pre-Analysis Validity Checks**

1. **Proportion of Co-Offenses Involving an Age Gap Between Offenders**  
   Counts and percentage of co-offenses where the youngest and oldest offenders differ by at least one age group. *This helps assess whether assigning offenses to both groups might overlook intermediate age categories.*

| **Gap Size** | **Frequency** |
| --- | --- |
| 2 groups apart | 73 |
| 3 groups apart | 52 |
| 4 groups apart | 25 |
| 5 groups apart | 9 |
| Total with Age Gap | 159 |
| Proportion of Total | 0.13 |

1. **Percentages of co-offense age partners for each offender age group.**

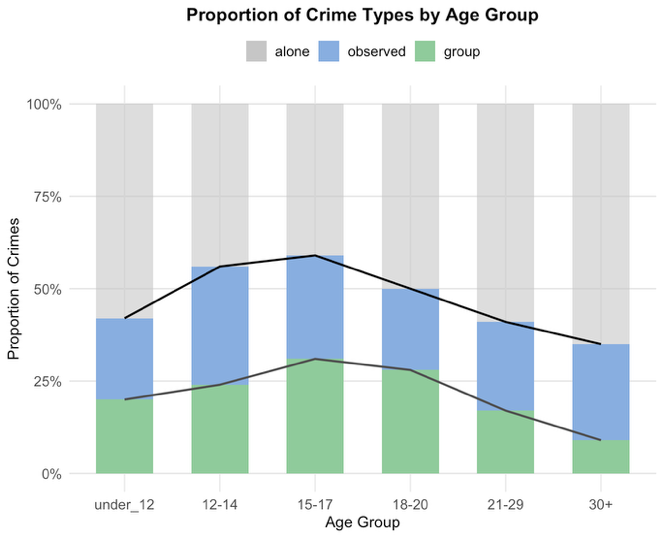
| **Offender Age** | **Co-Offender Age Group (%)** | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
|  | **<12** | **12-14** | **15-17** | **18-20** | **21-29** | **30+** |
| **<12** | 43.1 | 35.4 | 3.1 | 0 | 4.6 | 13.8 |
| **12-14** | 8.6 | 65.9 | 13.5 | 1.5 | 2.2 | 8.2 |
| **15-17** | 0.7 | 13.3 | 46.5 | 11.8 | 10.7 | 17 |
| **18-20** | 0 | 1.5 | 12 | 47.4 | 24.8 | 14.3 |
| **21-29** | 0.4 | 0.9 | 4.3 | 9.8 | 60.1 | 24.4 |
| **30+** | 1.1 | 2.7 | 5.6 | 4.6 | 19.9 | 66.2 |

**Descriptive Crime Role Distributions by Age Group:**

1. **Counts of Crime Type by Age Group**
2. *Attributing co-offenses to youngest* ***and*** *oldest present.*

| **Age Group** | **Alone** | **Group** | **Observed** | **Total** |
| --- | --- | --- | --- | --- |
| <12 | 148 | 51 | 55 | 254 |
| 12-14 | 321 | 179 | 235 | 735 |
| 15-17 | 282 | 208 | 190 | 680 |
| 18-20 | 359 | 203 | 156 | 718 |
| 21-29 | 1,631 | 470 | 659 | 2,760 |
| 30+ | 4,056 | 552 | 1,601 | 6,209 |
| Total | 6,797 | 1,663 | 2,896 | 11,356 |

1. **Percentages of Crime Type by Age Group**

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1. *Attributing co-offenses to youngest* ***and*** *oldest present.*

| **Age Group** | **Alone (%)** | **Group (%)** | **Observed (%)** |
| --- | --- | --- | --- |
| <12 | 58.3 | 20.1 | 21.7 |
| 12-14 | 43.7 | 24.4 | 32 |
| 15-17 | 41.5 | 30.6 | 27.9 |
| 18-20 | 50 | 28.3 | 21.7 |
| 21-29 | 59.1 | 17 | 23.9 |
| 30+ | 65.3 | 8.9 | 25.8 |

**Analyses of difference in proportion of crimes committed alone between age groups**

1. **Chi Squared of solo crime committed in each age group**

**Note -** A chi-squared test measures whether there's a **significant difference between expected and observed frequencies** in categorical data — in this case, whether age groups differ in how often they commit crimes alone. I had R produce these tables ascending P value size (the significance of the difference between groups gets smaller as you go down the table) so that we can quickly visualize the largest differences.

1. *Attributing co-offenses to youngest* ***and*** *oldest present.*

| **Age Group 1** | **Age Group 2** | **Chi-Square (χ²)** | **df** | **Phi** | **p** | **p (Bonferroni)** | |
| --- | --- | --- | --- | --- | --- | --- | --- |
| ALL | vs. all | 282.992 | 5 |  | 0.0000 |  |
| <12 | 15-17 | 20.331 | 1 | 0.148 | 0.0000 | 0.0000 |
| 12-14 | 21-29 | 55.353 | 1 | 0.126 | 0.0000 | 0.0000 |
| 12-14 | 30+ | 131.286 | 1 | 0.138 | 0.0000 | 0.0000 |
| 15-17 | 21-29 | 67.933 | 1 | 0.141 | 0.0000 | 0.0000 |
| 15-17 | 30+ | 148.536 | 1 | 0.147 | 0.0000 | 0.0000 |
| 18-20 | 21-29 | 18.881 | 1 | 0.074 | 0.0000 | 0.0000 |
| 18-20 | 30+ | 64.729 | 1 | 0.097 | 0.0000 | 0.0000 |
| 21-29 | 30+ | 31.697 | 1 | 0.059 | 0.0000 | 0.0000 |
| <12 | 12-14 | 15.545 | 1 | 0.125 | 0.0001 | 0.0015 |
| 15-17 | 18-20 | 9.893 | 1 | 0.084 | 0.0017 | 0.0255 |
| 12-14 | 18-20 | 5.587 | 1 | 0.062 | 0.0181 | 0.2715 |
| <12 | 30+ | 5.039 | 1 | 0.028 | 0.0248 | 0.3720 |
| <12 | 18-20 | 4.814 | 1 | 0.070 | 0.0282 | 0.4230 |
| 12-14 | 15-17 | 0.614 | 1 | 0.021 | 0.4334 | 1.0000 |
| <12 | 21-29 | 0.036 | 1 | 0.003 | 0.8496 | 1.0000 |

**Logistic Regression Analyses Predicting Likelihood of Solo Offending by Age Group**

1. **Logistic Regression Predicting Solo Offending, Reference Group: Ages 15–17**
2. *Attributing co-offenses to youngest* ***and*** *oldest present.*

| **Age Group** | **Odds Ratio** | **Std. Error** | **z** | **p** | **CI Lower** | **CI Upper** |
| --- | --- | --- | --- | --- | --- | --- |
| Intercept (15–17) | 0.71 | 0.08 | -4.43 | 0.0000 | 0.61 | 0.82 |
| <12 | 1.97 | 0.15 | 4.55 | 0.0000 | 1.47 | 2.64 |
| 12-14 | 1.09 | 0.11 | 0.84 | 0.4025 | 0.89 | 1.35 |
| 18-20 | 1.41 | 0.11 | 3.19 | 0.0014 | 1.14 | 1.74 |
| 21-29 | 2.04 | 0.09 | 8.19 | 0.0000 | 1.72 | 2.42 |
| 30+ | 2.66 | 0.08 | 11.89 | 0.0000 | 2.26 | 3.13 |

1. **Logistic Regression Predicting Solo Offending, Reference Group: Ages 18–20**
2. *Attributing co-offenses to youngest* ***and*** *oldest present.*

| **Age Group** | **Odds Ratio** | **Std. Error** | **z** | **p** | **CI Lower** | **CI Upper** |
| --- | --- | --- | --- | --- | --- | --- |
| Intercept (18–20) | 1.00 | 0.07 | 0.00 | 1.0000 | 0.86 | 1.16 |
| <12 | 1.40 | 0.15 | 2.26 | 0.0237 | 1.05 | 1.87 |
| 12-14 | 0.78 | 0.11 | -2.41 | 0.0157 | 0.63 | 0.95 |
| 15-17 | 0.71 | 0.11 | -3.19 | 0.0014 | 0.57 | 0.88 |
| 21-29 | 1.44 | 0.08 | 4.37 | 0.0000 | 1.23 | 1.70 |
| 30+ | 1.88 | 0.08 | 7.99 | 0.0000 | 1.61 | 2.20 |

**Theft & Burglary data**

**Pre-Analysis Validity Checks**

1. **Proportion of Co-Offenses Involving an Age Gap Between Offenders**  
   Counts and percentage of co-offenses where the youngest and oldest offenders differ by at least one age group. *This helps assess whether assigning offenses to both groups might overlook intermediate age categories.*

| **Gap Size** | **Frequency** |
| --- | --- |
| 2 groups apart | 59 |
| 3 groups apart | 22 |
| 4 groups apart | 9 |
| 5 groups apart | 8 |
| Total with Age Gap | 98 |
| Proportion of Total | 0.08 |

1. **Percentages of co-offense age partners for each offender age group.**

| **Offender Age** | **Co-Offender Age Group (%)** | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
|  | **<12** | **12-14** | **15-17** | **18-20** | **21-29** | **30+** |
| **<12** | 59.6 | 20.2 | 7.4 | 1.1 | 3.2 | 8.5 |
| **12-14** | 11.7 | 52.8 | 20.2 | 9.2 | 2.5 | 3.7 |
| **15-17** | 2.2 | 10.5 | 58.4 | 19.4 | 4.1 | 5.4 |
| **18-20** | 0.2 | 3.7 | 15.2 | 53.9 | 20.9 | 6 |
| **21-29** | 0.4 | 0.5 | 1.6 | 10.3 | 69.7 | 17.6 |
| **30+** | 1.1 | 0.8 | 2.2 | 3.2 | 18.9 | 73.9 |

**Descriptive Crime Role Distributions by Age Group:**

1. **Counts of Crime Type by Age Group**
2. *Attributing co-offenses to youngest* ***and*** *oldest present.*

| **Age Group** | **Alone** | **Group** | **Observed** | **Total** |
| --- | --- | --- | --- | --- |
| <12 | 81 | 66 | 27 | 174 |
| 12-14 | 113 | 120 | 85 | 318 |
| 15-17 | 195 | 223 | 120 | 538 |
| 18-20 | 291 | 293 | 128 | 712 |
| 21-29 | 1,079 | 533 | 465 | 2,077 |
| 30+ | 1,727 | 480 | 639 | 2,846 |
| Total | 3,486 | 1,715 | 1,464 | 6,665 |

1. **A graph of different types of crime type

   AI-generated content may be incorrect.***Attributing co-offenses to youngest* ***and*** *oldest present.*

| **Age Group** | **Alone (%)** | **Group (%)** | **Observed (%)** |
| --- | --- | --- | --- |
| <12 | 46.6 | 37.9 | 15.5 |
| 12-14 | 35.5 | 37.7 | 26.7 |
| 15-17 | 36.2 | 41.4 | 22.3 |
| 18-20 | 40.9 | 41.2 | 18 |
| 21-29 | 51.9 | 25.7 | 22.4 |
| 30+ | 60.7 | 16.9 | 22.5 |

**Analyses of difference in proportion of crimes committed alone between age groups**

1. **Chi Squared of solo crime committed in each age group**

**Note -** A chi-squared test measures whether there's a **significant difference between expected and observed frequencies** in categorical data — in this case, whether age groups differ in how often they commit crimes alone. I had R produce these tables ascending P value size (the significance of the difference between groups gets smaller as you go down the table) so that we can quickly visualize the largest differences.

1. *Attributing co-offenses to youngest* ***and*** *oldest present.*

| **Age Group 1** | **Age Group 2** | **Chi-Square (χ²)** | **df** | **Phi** | **p** | **p (Bonferroni)** | |
| --- | --- | --- | --- | --- | --- | --- | --- |
| ALL | vs. all | 211.249 | 5 |  | 0.0000 |  |
| 12-14 | 21-29 | 29.072 | 1 | 0.110 | 0.0000 | 0.0000 |
| 12-14 | 30+ | 73.301 | 1 | 0.152 | 0.0000 | 0.0000 |
| 15-17 | 21-29 | 41.557 | 1 | 0.126 | 0.0000 | 0.0000 |
| 15-17 | 30+ | 109.114 | 1 | 0.180 | 0.0000 | 0.0000 |
| 18-20 | 21-29 | 25.601 | 1 | 0.096 | 0.0000 | 0.0000 |
| 18-20 | 30+ | 90.246 | 1 | 0.159 | 0.0000 | 0.0000 |
| 21-29 | 30+ | 36.995 | 1 | 0.087 | 0.0000 | 0.0000 |
| <12 | 30+ | 13.044 | 1 | 0.066 | 0.0003 | 0.0045 |
| <12 | 15-17 | 5.457 | 1 | 0.088 | 0.0195 | 0.2925 |
| <12 | 12-14 | 5.264 | 1 | 0.103 | 0.0218 | 0.3270 |
| 15-17 | 18-20 | 2.568 | 1 | 0.045 | 0.1091 | 1.0000 |
| 12-14 | 18-20 | 2.407 | 1 | 0.048 | 0.1208 | 1.0000 |
| <12 | 21-29 | 1.663 | 1 | 0.027 | 0.1972 | 1.0000 |
| <12 | 18-20 | 1.627 | 1 | 0.043 | 0.2021 | 1.0000 |
| 12-14 | 15-17 | 0.018 | 1 | 0.005 | 0.8921 | 1.0000 |

**Logistic Regression Analyses Predicting Likelihood of Solo Offending by Age Group**

1. **Logistic Regression Predicting Solo Offending, Reference Group: Ages 15–17**
2. *Attributing co-offenses to youngest* ***and*** *oldest present.*

| **Age Group** | **Odds Ratio** | **Std. Error** | **z** | **p** | **CI Lower** | **CI Upper** |
| --- | --- | --- | --- | --- | --- | --- |
| Intercept (15–17) | 0.57 | 0.09 | -6.30 | 0.0000 | 0.48 | 0.68 |
| <12 | 1.53 | 0.18 | 2.42 | 0.0156 | 1.08 | 2.17 |
| 12-14 | 0.97 | 0.15 | -0.21 | 0.8342 | 0.73 | 1.29 |
| 18-20 | 1.22 | 0.12 | 1.66 | 0.0969 | 0.97 | 1.53 |
| 21-29 | 1.90 | 0.10 | 6.44 | 0.0000 | 1.57 | 2.32 |
| 30+ | 2.71 | 0.10 | 10.24 | 0.0000 | 2.24 | 3.29 |

1. **Logistic Regression Predicting Solo Offending, Reference Group: Ages 18–20**
2. *Attributing co-offenses to youngest* ***and*** *oldest present.*

| **Age Group** | **Odds Ratio** | **Std. Error** | **z** | **p** | **CI Lower** | **CI Upper** |
| --- | --- | --- | --- | --- | --- | --- |
| Intercept (18–20) | 0.69 | 0.08 | -4.84 | 0.0000 | 0.59 | 0.80 |
| <12 | 1.26 | 0.17 | 1.36 | 0.1740 | 0.90 | 1.76 |
| 12-14 | 0.80 | 0.14 | -1.62 | 0.1054 | 0.61 | 1.05 |
| 15-17 | 0.82 | 0.12 | -1.66 | 0.0969 | 0.65 | 1.04 |
| 21-29 | 1.56 | 0.09 | 5.08 | 0.0000 | 1.32 | 1.86 |
| 30+ | 2.23 | 0.09 | 9.41 | 0.0000 | 1.89 | 2.64 |

1. **Co-offending.**

**All available data**

**Analyses of difference in proportion of crimes committed alone between age groups**

1. **Chi Squared of solo crime committed in each age group**

**Note -** A chi-squared test measures whether there's a **significant difference between expected and observed frequencies** in categorical data — in this case, whether age groups differ in how often they commit crimes alone. I had R produce these tables ascending P value size (the significance of the difference between groups gets smaller as you go down the table) so that we can quickly visualize the largest differences.

*a. Attributing co-offenses to youngest* ***and*** *oldest present.*

| **Age Group 1** | **Age Group 2** | **Chi-Square (χ²)** | **df** | **Phi** | **p** | **p (Bonferroni)** | |
| --- | --- | --- | --- | --- | --- | --- | --- |
| ALL | vs. all | 1,078.893 | 5 |  | 0.0000 |  |
| <12 | 30+ | 120.447 | 1 | 0.100 | 0.0000 | 0.0000 |
| 12-14 | 15-17 | 18.599 | 1 | 0.084 | 0.0000 | 0.0000 |
| 12-14 | 21-29 | 31.843 | 1 | 0.067 | 0.0000 | 0.0000 |
| 12-14 | 30+ | 266.615 | 1 | 0.145 | 0.0000 | 0.0000 |
| 15-17 | 21-29 | 147.053 | 1 | 0.142 | 0.0000 | 0.0000 |
| 15-17 | 30+ | 619.099 | 1 | 0.219 | 0.0000 | 0.0000 |
| 18-20 | 21-29 | 140.023 | 1 | 0.136 | 0.0000 | 0.0000 |
| 18-20 | 30+ | 639.790 | 1 | 0.220 | 0.0000 | 0.0000 |
| 21-29 | 30+ | 264.014 | 1 | 0.123 | 0.0000 | 0.0000 |
| <12 | 21-29 | 14.585 | 1 | 0.048 | 0.0001 | 0.0015 |
| 12-14 | 18-20 | 13.592 | 1 | 0.068 | 0.0002 | 0.0030 |
| <12 | 15-17 | 9.712 | 1 | 0.071 | 0.0018 | 0.0270 |
| <12 | 18-20 | 6.800 | 1 | 0.055 | 0.0091 | 0.1365 |
| 15-17 | 18-20 | 0.661 | 1 | 0.015 | 0.4164 | 1.0000 |
| <12 | 12-14 | 0.000 | 1 | 0.000 | 1.0000 | 1.0000 |

**Logistic Regression Analyses Predicting Likelihood of Solo Offending by Age Group**

1. **Logistic Regression Predicting Solo Offending, Reference Group: Ages 15–17**
2. *Attributing co-offenses to youngest* ***and*** *oldest present.*

| **Age Group** | **Odds Ratio** | **Std. Error** | **z** | **p** | **CI Lower** | **CI Upper** |
| --- | --- | --- | --- | --- | --- | --- |
| Intercept (15–17) | 1.76 | 0.06 | 10.24 | 0.0000 | 1.58 | 1.97 |
| <12 | 1.44 | 0.11 | 3.16 | 0.0016 | 1.15 | 1.80 |
| 12-14 | 1.44 | 0.08 | 4.35 | 0.0000 | 1.22 | 1.70 |
| 18-20 | 1.07 | 0.08 | 0.85 | 0.3952 | 0.92 | 1.23 |
| 21-29 | 2.15 | 0.06 | 11.99 | 0.0000 | 1.90 | 2.44 |
| 30+ | 4.32 | 0.06 | 23.40 | 0.0000 | 3.82 | 4.88 |

1. **Logistic Regression Predicting Solo Offending, Reference Group: Ages 18–20**
2. *Attributing co-offenses to youngest* ***and*** *oldest present.*

| **Age Group** | **Odds Ratio** | **Std. Error** | **z** | **p** | **CI Lower** | **CI Upper** |
| --- | --- | --- | --- | --- | --- | --- |
| Intercept (18–20) | 1.88 | 0.05 | 12.45 | 0.0000 | 1.70 | 2.08 |
| <12 | 1.35 | 0.11 | 2.66 | 0.0079 | 1.08 | 1.68 |
| 12-14 | 1.35 | 0.08 | 3.72 | 0.0002 | 1.15 | 1.59 |
| 15-17 | 0.94 | 0.08 | -0.85 | 0.3952 | 0.81 | 1.09 |
| 21-29 | 2.02 | 0.06 | 11.73 | 0.0000 | 1.80 | 2.27 |
| 30+ | 4.05 | 0.06 | 23.96 | 0.0000 | 3.61 | 4.54 |

**Violent Crime Data**

**Analyses of difference in proportion of crimes committed alone between age groups**

1. **Chi Squared of solo crime committed in each age group**

**Note -** A chi-squared test measures whether there's a **significant difference between expected and observed frequencies** in categorical data — in this case, whether age groups differ in how often they commit crimes alone. I had R produce these tables ascending P value size (the significance of the difference between groups gets smaller as you go down the table) so that we can quickly visualize the largest differences.

*a. Attributing co-offenses to youngest* ***and*** *oldest present.*

| **Age Group 1** | **Age Group 2** | **Chi-Square (χ²)** | **df** | **Phi** | **p** | **p (Bonferroni)** | |
| --- | --- | --- | --- | --- | --- | --- | --- |
| ALL | vs. all | 483.436 | 5 |  | 0.0000 |  |
| <12 | 30+ | 34.798 | 1 | 0.073 | 0.0000 | 0.0000 |
| 12-14 | 21-29 | 20.113 | 1 | 0.076 | 0.0000 | 0.0000 |
| 12-14 | 30+ | 165.207 | 1 | 0.154 | 0.0000 | 0.0000 |
| 15-17 | 21-29 | 62.532 | 1 | 0.135 | 0.0000 | 0.0000 |
| 15-17 | 30+ | 291.775 | 1 | 0.206 | 0.0000 | 0.0000 |
| 18-20 | 21-29 | 45.441 | 1 | 0.114 | 0.0000 | 0.0000 |
| 18-20 | 30+ | 246.977 | 1 | 0.189 | 0.0000 | 0.0000 |
| 21-29 | 30+ | 124.546 | 1 | 0.118 | 0.0000 | 0.0000 |
| <12 | 15-17 | 9.674 | 1 | 0.102 | 0.0019 | 0.0285 |
| 12-14 | 15-17 | 6.599 | 1 | 0.068 | 0.0102 | 0.1530 |
| <12 | 18-20 | 6.109 | 1 | 0.079 | 0.0134 | 0.2010 |
| 12-14 | 18-20 | 2.680 | 1 | 0.043 | 0.1016 | 1.0000 |
| <12 | 12-14 | 1.701 | 1 | 0.041 | 0.1922 | 1.0000 |
| <12 | 21-29 | 1.307 | 1 | 0.021 | 0.2529 | 1.0000 |
| 15-17 | 18-20 | 0.794 | 1 | 0.024 | 0.3729 | 1.0000 |

**Logistic Regression Analyses Predicting Likelihood of Solo Offending by Age Group**

1. **Logistic Regression Predicting Solo Offending, Reference Group: Ages 15–17**
2. *Attributing co-offenses to youngest* ***and*** *oldest present.*

| **Age Group** | **Odds Ratio** | **Std. Error** | **z** | **p** | **CI Lower** | **CI Upper** |
| --- | --- | --- | --- | --- | --- | --- |
| Intercept (15–17) | 2.27 | 0.08 | 9.85 | 0.0000 | 1.93 | 2.68 |
| <12 | 1.75 | 0.18 | 3.17 | 0.0015 | 1.25 | 2.50 |
| 12-14 | 1.37 | 0.12 | 2.62 | 0.0087 | 1.08 | 1.73 |
| 18-20 | 1.12 | 0.12 | 0.95 | 0.3424 | 0.89 | 1.41 |
| 21-29 | 2.15 | 0.10 | 7.84 | 0.0000 | 1.77 | 2.60 |
| 30+ | 4.52 | 0.09 | 15.97 | 0.0000 | 3.75 | 5.43 |

1. **Logistic Regression Predicting Solo Offending, Reference Group: Ages 18–20**
2. *Attributing co-offenses to youngest* ***and*** *oldest present.*

| **Age Group** | **Odds Ratio** | **Std. Error** | **z** | **p** | **CI Lower** | **CI Upper** |
| --- | --- | --- | --- | --- | --- | --- |
| Intercept (18–20) | 2.54 | 0.08 | 11.23 | 0.0000 | 2.16 | 2.99 |
| <12 | 1.57 | 0.18 | 2.54 | 0.0110 | 1.12 | 2.24 |
| 12-14 | 1.22 | 0.12 | 1.70 | 0.0900 | 0.97 | 1.55 |
| 15-17 | 0.89 | 0.12 | -0.95 | 0.3424 | 0.71 | 1.13 |
| 21-29 | 1.92 | 0.10 | 6.72 | 0.0000 | 1.59 | 2.32 |
| 30+ | 4.04 | 0.09 | 14.84 | 0.0000 | 3.35 | 4.85 |

**Theft and Burglary Data**

**Analyses of difference in proportion of crimes committed alone between age groups**

1. **Chi Squared of solo crime committed in each age group**

**Note -** A chi-squared test measures whether there's a **significant difference between expected and observed frequencies** in categorical data — in this case, whether age groups differ in how often they commit crimes alone. I had R produce these tables ascending P value size (the significance of the difference between groups gets smaller as you go down the table) so that we can quickly visualize the largest differences.

*a. Attributing co-offenses to youngest* ***and*** *oldest present.*

| **Age Group 1** | **Age Group 2** | **Chi-Square (χ²)** | **df** | **Phi** | **p** | **p (Bonferroni)** | |
| --- | --- | --- | --- | --- | --- | --- | --- |
| ALL | vs. all | 312.737 | 5 |  | 0.0000 |  |
| <12 | 30+ | 47.716 | 1 | 0.126 | 0.0000 | 0.000 |
| 12-14 | 21-29 | 19.668 | 1 | 0.091 | 0.0000 | 0.000 |
| 12-14 | 30+ | 79.721 | 1 | 0.159 | 0.0000 | 0.000 |
| 15-17 | 21-29 | 51.059 | 1 | 0.140 | 0.0000 | 0.000 |
| 15-17 | 30+ | 164.660 | 1 | 0.221 | 0.0000 | 0.000 |
| 18-20 | 21-29 | 60.290 | 1 | 0.147 | 0.0000 | 0.000 |
| 18-20 | 30+ | 196.101 | 1 | 0.235 | 0.0000 | 0.000 |
| 21-29 | 30+ | 56.310 | 1 | 0.107 | 0.0000 | 0.000 |
| <12 | 21-29 | 11.755 | 1 | 0.072 | 0.0006 | 0.009 |
| 12-14 | 15-17 | 0.999 | 1 | 0.034 | 0.3177 | 1.000 |
| 12-14 | 18-20 | 0.930 | 1 | 0.030 | 0.3348 | 1.000 |
| <12 | 15-17 | 0.537 | 1 | 0.027 | 0.4637 | 1.000 |
| <12 | 18-20 | 0.476 | 1 | 0.023 | 0.4904 | 1.000 |
| 15-17 | 18-20 | 0.002 | 1 | 0.001 | 0.9617 | 1.000 |
| <12 | 12-14 | 0.000 | 1 | 0.000 | 1.0000 | 1.000 |

**Logistic Regression Analyses Predicting Likelihood of Solo Offending by Age Group**

1. **Logistic Regression Predicting Solo Offending, Reference Group: Ages 15–17**
2. *Attributing co-offenses to youngest* ***and*** *oldest present.*

| **Age Group** | **Odds Ratio** | **Std. Error** | **z** | **p** | **CI Lower** | **CI Upper** |
| --- | --- | --- | --- | --- | --- | --- |
| Intercept (15–17) | 1.41 | 0.09 | 3.95 | 0.0001 | 1.19 | 1.68 |
| <12 | 1.16 | 0.18 | 0.82 | 0.4115 | 0.82 | 1.65 |
| 12-14 | 1.17 | 0.15 | 1.07 | 0.2841 | 0.88 | 1.55 |
| 18-20 | 1.01 | 0.12 | 0.11 | 0.9156 | 0.81 | 1.27 |
| 21-29 | 2.05 | 0.10 | 7.12 | 0.0000 | 1.68 | 2.50 |
| 30+ | 3.49 | 0.10 | 12.40 | 0.0000 | 2.86 | 4.25 |

1. **Logistic Regression Predicting Solo Offending, Reference Group: Ages 18–20**
2. *Attributing co-offenses to youngest* ***and*** *oldest present.*

| **Age Group** | **Odds Ratio** | **Std. Error** | **z** | **p** | **CI Lower** | **CI Upper** |
| --- | --- | --- | --- | --- | --- | --- |
| Intercept (18–20) | 1.43 | 0.08 | 4.70 | 0.0000 | 1.23 | 1.66 |
| <12 | 1.14 | 0.17 | 0.78 | 0.4381 | 0.82 | 1.61 |
| 12-14 | 1.15 | 0.14 | 1.03 | 0.3016 | 0.88 | 1.52 |
| 15-17 | 0.99 | 0.12 | -0.11 | 0.9156 | 0.79 | 1.24 |
| 21-29 | 2.03 | 0.09 | 7.74 | 0.0000 | 1.69 | 2.42 |
| 30+ | 3.45 | 0.09 | 13.58 | 0.0000 | 2.88 | 4.12 |