## Associations between highest qualification and grip strength in men.

|  | Below 45 | 45 to <50 | 50 to <55 | 55 to <60 | 60 to <65 | Above 65 |
| --- | --- | --- | --- | --- | --- | --- |
| **Highest Qualification** | **Coef. (95% CI)**1 | **Coef. (95% CI)**1 | **Coef. (95% CI)**1 | **Coef. (95% CI)**1 | **Coef. (95% CI)**1 | **Coef. (95% CI)**1 |
| **Model: 1** |  |  |  |  |  |  |
| Degree & higher | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) |
| A-levels, professional, or equiv. | 0.74 [0.41, 1.07] | 0.49 [0.20, 0.78] | 0.15 [-0.10, 0.41] | 0.02 [-0.20, 0.24] | -0.13 [-0.31, 0.06] | -0.23 [-0.44, -0.03] |
| O-levels, CSEs, or equiv. | 1.39 [1.10, 1.67] | 0.51 [0.25, 0.76] | -0.05 [-0.29, 0.20] | -0.41 [-0.64, -0.18] | -0.63 [-0.83, -0.43] | -0.78 [-1.01, -0.56] |
| No qualification | -1.85 [-2.40, -1.29] | -2.36 [-2.79, -1.93] | -2.05 [-2.38, -1.73] | -2.03 [-2.29, -1.76] | -1.89 [-2.08, -1.69] | -1.66 [-1.85, -1.46] |
| **Model: 2** |  |  |  |  |  |  |
| Degree & higher | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) |
| A-levels, professional, or equiv. | 1.07 [0.75, 1.39] | 0.80 [0.52, 1.08] | 0.59 [0.35, 0.84] | 0.49 [0.28, 0.70] | 0.33 [0.15, 0.51] | 0.15 [-0.05, 0.34] |
| O-levels, CSEs, or equiv. | 1.86 [1.59, 2.13] | 0.99 [0.75, 1.23] | 0.50 [0.27, 0.74] | 0.08 [-0.14, 0.30] | -0.23 [-0.42, -0.04] | -0.48 [-0.70, -0.27] |
| No qualification | -0.50 [-1.03, 0.03] | -0.97 [-1.39, -0.56] | -0.76 [-1.07, -0.44] | -0.74 [-0.99, -0.49] | -0.77 [-0.96, -0.58] | -0.68 [-0.87, -0.49] |
| **Model: 3** |  |  |  |  |  |  |
| Degree & higher | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) |
| A-levels, professional, or equiv. | 1.19 [0.88, 1.51] | 0.93 [0.65, 1.21] | 0.74 [0.49, 0.98] | 0.64 [0.43, 0.85] | 0.46 [0.28, 0.64] | 0.28 [0.08, 0.47] |
| O-levels, CSEs, or equiv. | 2.06 [1.79, 2.33] | 1.17 [0.92, 1.41] | 0.66 [0.43, 0.90] | 0.25 [0.03, 0.47] | -0.08 [-0.27, 0.11] | -0.34 [-0.55, -0.12] |
| No qualification | -0.17 [-0.70, 0.36] | -0.68 [-1.10, -0.26] | -0.46 [-0.78, -0.14] | -0.45 [-0.70, -0.19] | -0.50 [-0.69, -0.31] | -0.42 [-0.61, -0.23] |
| **Model: 4** |  |  |  |  |  |  |
| Degree & higher | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) |
| A-levels, professional, or equiv. | 1.00 [0.69, 1.32] | 0.78 [0.50, 1.06] | 0.60 [0.35, 0.84] | 0.61 [0.40, 0.83] | 0.46 [0.28, 0.64] | 0.24 [0.04, 0.44] |
| O-levels, CSEs, or equiv. | 1.48 [1.19, 1.77] | 0.76 [0.50, 1.02] | 0.42 [0.17, 0.66] | 0.23 [0.00, 0.45] | -0.06 [-0.25, 0.14] | -0.37 [-0.58, -0.15] |
| No qualification | 0.13 [-0.43, 0.68] | -0.47 [-0.90, -0.03] | -0.26 [-0.60, 0.08] | -0.27 [-0.54, 0.01] | -0.39 [-0.59, -0.19] | -0.47 [-0.67, -0.27] |
| 1Coefficient: Difference in mean outcome (unit) (95% Confidence Interval) | | | | | | |

## Associations between highest qualification and grip strength in women.

| **Highest Qualification** | **Coef. (95% CI)**1 |
| --- | --- |
| **Model: 1** |  |
| Degree & higher | 0.00 (ref) |
| A-levels, professional, or equiv. | -0.73 [-0.80, -0.67] |
| O-levels, CSEs, or equiv. | -1.11 [-1.17, -1.05] |
| No qualification | -2.18 [-2.25, -2.11] |
| **Model: 2** |  |
| Degree & higher | 0.00 (ref) |
| A-levels, professional, or equiv. | -0.46 [-0.52, -0.40] |
| O-levels, CSEs, or equiv. | -0.78 [-0.84, -0.73] |
| No qualification | -1.42 [-1.49, -1.35] |
| **Model: 3** |  |
| Degree & higher | 0.00 (ref) |
| A-levels, professional, or equiv. | -0.39 [-0.45, -0.33] |
| O-levels, CSEs, or equiv. | -0.70 [-0.75, -0.64] |
| No qualification | -1.28 [-1.35, -1.21] |
| **Model: 4** |  |
| Degree & higher | 0.00 (ref) |
| A-levels, professional, or equiv. | -0.34 [-0.41, -0.28] |
| O-levels, CSEs, or equiv. | -0.63 [-0.69, -0.57] |
| No qualification | -1.13 [-1.20, -1.05] |
| **Model: 5** |  |
| Degree & higher | 0.00 (ref) |
| A-levels, professional, or equiv. | -0.37 [-0.44, -0.31] |
| O-levels, CSEs, or equiv. | -0.67 [-0.73, -0.61] |
| No qualification | -1.15 [-1.22, -1.07] |
| 1Coefficient: Difference in mean outcome (unit) (95% Confidence Interval) | |

## Associations between IMD and grip strength in men and women

|  | Women | Men |
| --- | --- | --- |
| **Index of Multiple Deprivation** | **Coef. (95% CI)**1 | **Coef. (95% CI)**1 |
| **Model: 1** |  |  |
| 1 (most affluent) | 0.00 (ref) | 0.00 (ref) |
| 2 | -0.10 [-0.17, -0.03] | -0.17 [-0.28, -0.06] |
| 3 | -0.34 [-0.41, -0.26] | -0.51 [-0.63, -0.40] |
| 4 | -0.74 [-0.82, -0.67] | -1.35 [-1.46, -1.23] |
| 5 (least affluent) | -1.41 [-1.48, -1.34] | -2.72 [-2.83, -2.60] |
| **Model: 2** |  |  |
| 1 (most affluent) | 0.00 (ref) | 0.00 (ref) |
| 2 | 0.00 [-0.07, 0.07] | 0.04 [-0.07, 0.15] |
| 3 | -0.14 [-0.21, -0.07] | -0.14 [-0.24, -0.03] |
| 4 | -0.41 [-0.49, -0.34] | -0.70 [-0.81, -0.60] |
| 5 (least affluent) | -0.85 [-0.92, -0.78] | -1.63 [-1.74, -1.52] |
| **Model: 3** |  |  |
| 1 (most affluent) | 0.00 (ref) | 0.00 (ref) |
| 2 | 0.03 [-0.04, 0.10] | 0.07 [-0.04, 0.18] |
| 3 | -0.09 [-0.16, -0.02] | -0.07 [-0.18, 0.04] |
| 4 | -0.32 [-0.40, -0.25] | -0.60 [-0.70, -0.49] |
| 5 (least affluent) | -0.69 [-0.76, -0.62] | -1.45 [-1.56, -1.34] |
| **Model: 4** |  |  |
| 1 (most affluent) | 0.00 (ref) | 0.00 (ref) |
| 2 | 0.05 [-0.02, 0.12] | 0.03 [-0.08, 0.14] |
| 3 | -0.06 [-0.13, 0.01] | -0.12 [-0.22, -0.01] |
| 4 | -0.24 [-0.32, -0.17] | -0.62 [-0.73, -0.51] |
| 5 (least affluent) | -0.52 [-0.59, -0.45] | -1.33 [-1.44, -1.22] |
| **Model: 5** |  |  |
| 1 (most affluent) | 0.00 (ref) | 0.00 (ref) |
| 2 | 0.04 [-0.03, 0.11] | 0.02 [-0.09, 0.13] |
| 3 | -0.05 [-0.12, 0.02] | -0.11 [-0.22, 0.00] |
| 4 | -0.22 [-0.30, -0.15] | -0.55 [-0.66, -0.44] |
| 5 (least affluent) | -0.54 [-0.62, -0.47] | -1.25 [-1.36, -1.14] |
| 1Coefficient: Difference in mean outcome (unit) (95% Confidence Interval) | | |

## Associations between ethnicity and grip strength in men and women

|  | Women | Men |
| --- | --- | --- |
| **Characteristic** | **Coef. (95% CI)**1 | **Coef. (95% CI)**1 |
| **Model: 1** |  |  |
| White | 0.00 (ref) | 0.00 (ref) |
| South Asian | -5.20 [-5.38, -5.02] | -7.47 [-7.71, -7.23] |
| Black | 0.56 [0.38, 0.73] | -0.63 [-0.93, -0.34] |
| Mixed | -0.07 [-0.35, 0.21] | -0.30 [-0.81, 0.21] |
| Other | -2.36 [-2.56, -2.16] | -4.60 [-4.94, -4.26] |
| **Model: 2** |  |  |
| White | 0.00 (ref) | 0.00 (ref) |
| South Asian | -3.45 [-3.62, -3.28] | -5.17 [-5.40, -4.94] |
| Black | 0.82 [0.65, 0.99] | 0.34 [0.06, 0.62] |
| Mixed | 0.31 [0.04, 0.57] | 0.29 [-0.20, 0.78] |
| Other | -1.11 [-1.30, -0.92] | -2.58 [-2.91, -2.25] |
| **Model: 3** |  |  |
| White | 0.00 (ref) | 0.00 (ref) |
| South Asian | -3.31 [-3.49, -3.14] | -5.01 [-5.23, -4.78] |
| Black | 1.06 [0.89, 1.23] | 0.20 [-0.08, 0.48] |
| Mixed | 0.35 [0.08, 0.61] | 0.24 [-0.25, 0.73] |
| Other | -1.13 [-1.33, -0.94] | -2.62 [-2.94, -2.29] |
| **Model: 4** |  |  |
| White | 0.00 (ref) | 0.00 (ref) |
| South Asian | -3.31 [-3.49, -3.14] | -4.90 [-5.12, -4.67] |
| Black | 1.19 [1.02, 1.36] | 0.33 [0.05, 0.61] |
| Mixed | 0.40 [0.13, 0.66] | 0.29 [-0.20, 0.77] |
| Other | -1.06 [-1.25, -0.87] | -2.50 [-2.82, -2.17] |
| 1Coefficient: Difference in mean outcome (unit) (95% Confidence Interval) | | |

## Associations between highest qualification and grip strength in White men.

|  | Below 45 | 45 to <50 | 50 to <55 | 55 to <60 | 60 to <65 | Above 65 |
| --- | --- | --- | --- | --- | --- | --- |
| **Highest Qualification** | **Coef. (95% CI)**1 | **Coef. (95% CI)**1 | **Coef. (95% CI)**1 | **Coef. (95% CI)**1 | **Coef. (95% CI)**1 | **Coef. (95% CI)**1 |
| **Model: 1** |  |  |  |  |  |  |
| Degree & higher | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) |
| A-levels, professional, or equiv. | 0.55 [0.21, 0.90] | 0.37 [0.07, 0.67] | 0.06 [-0.20, 0.31] | -0.03 [-0.25, 0.19] | -0.20 [-0.39, -0.01] | -0.34 [-0.55, -0.14] |
| O-levels, CSEs, or equiv. | 1.07 [0.78, 1.36] | 0.24 [-0.02, 0.51] | -0.20 [-0.45, 0.05] | -0.43 [-0.66, -0.20] | -0.70 [-0.90, -0.50] | -0.89 [-1.12, -0.67] |
| No qualification | -1.19 [-1.81, -0.57] | -2.07 [-2.53, -1.61] | -2.02 [-2.36, -1.68] | -1.98 [-2.25, -1.71] | -1.97 [-2.17, -1.78] | -1.86 [-2.06, -1.66] |
| **Model: 2** |  |  |  |  |  |  |
| Degree & higher | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) |
| A-levels, professional, or equiv. | 1.00 [0.67, 1.33] | 0.72 [0.43, 1.01] | 0.54 [0.29, 0.78] | 0.46 [0.24, 0.67] | 0.28 [0.10, 0.46] | 0.07 [-0.13, 0.27] |
| O-levels, CSEs, or equiv. | 1.70 [1.42, 1.98] | 0.83 [0.57, 1.08] | 0.40 [0.16, 0.64] | 0.07 [-0.15, 0.30] | -0.28 [-0.47, -0.09] | -0.55 [-0.77, -0.34] |
| No qualification | 0.00 [-0.59, 0.60] | -0.78 [-1.23, -0.33] | -0.74 [-1.07, -0.41] | -0.71 [-0.97, -0.45] | -0.85 [-1.04, -0.66] | -0.84 [-1.03, -0.65] |
| **Model: 3** |  |  |  |  |  |  |
| Degree & higher | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) |
| A-levels, professional, or equiv. | 1.11 [0.78, 1.44] | 0.84 [0.55, 1.13] | 0.66 [0.42, 0.91] | 0.59 [0.38, 0.81] | 0.41 [0.22, 0.59] | 0.20 [0.00, 0.40] |
| O-levels, CSEs, or equiv. | 1.87 [1.59, 2.15] | 0.99 [0.73, 1.24] | 0.55 [0.30, 0.79] | 0.23 [0.01, 0.45] | -0.14 [-0.33, 0.06] | -0.41 [-0.63, -0.20] |
| No qualification | 0.31 [-0.29, 0.90] | -0.50 [-0.95, -0.05] | -0.47 [-0.80, -0.14] | -0.45 [-0.71, -0.19] | -0.59 [-0.79, -0.40] | -0.59 [-0.78, -0.39] |
| **Model: 4** |  |  |  |  |  |  |
| Degree & higher | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) |
| A-levels, professional, or equiv. | 0.89 [0.56, 1.22] | 0.67 [0.38, 0.96] | 0.52 [0.27, 0.77] | 0.55 [0.34, 0.77] | 0.40 [0.22, 0.59] | 0.17 [-0.03, 0.37] |
| O-levels, CSEs, or equiv. | 1.22 [0.91, 1.53] | 0.55 [0.27, 0.82] | 0.27 [0.02, 0.52] | 0.19 [-0.04, 0.42] | -0.11 [-0.31, 0.08] | -0.42 [-0.64, -0.20] |
| No qualification | 0.44 [-0.18, 1.06] | -0.40 [-0.88, 0.08] | -0.37 [-0.72, -0.01] | -0.31 [-0.59, -0.03] | -0.49 [-0.70, -0.29] | -0.62 [-0.82, -0.42] |
| 1Coefficient: Difference in mean outcome (unit) (95% Confidence Interval) | | | | | | |

## Associations between highest qualification and grip strength in South Asian men.

|  | Below 45 | 45 to <50 | 50 to <55 | 55 to <60 | 60 to <65 | Above 65 |
| --- | --- | --- | --- | --- | --- | --- |
| **Highest Qualification** | **Coef. (95% CI)**1 | **Coef. (95% CI)**1 | **Coef. (95% CI)**1 | **Coef. (95% CI)**1 | **Coef. (95% CI)**1 | **Coef. (95% CI)**1 |
| **Model: 1** |  |  |  |  |  |  |
| Degree & higher | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) |
| A-levels, professional, or equiv. | -0.34 [-1.96, 1.28] | -0.97 [-2.63, 0.68] | 0.59 [-1.04, 2.23] | -1.21 [-2.84, 0.42] | -0.53 [-2.17, 1.11] | -1.33 [-2.86, 0.20] |
| O-levels, CSEs, or equiv. | -0.07 [-1.51, 1.37] | -0.74 [-2.37, 0.89] | -0.75 [-2.30, 0.80] | -2.75 [-4.45, -1.04] | -0.78 [-2.41, 0.84] | -2.22 [-3.66, -0.77] |
| No qualification | -2.67 [-4.42, -0.91] | -4.12 [-5.96, -2.29] | -3.32 [-5.03, -1.60] | -2.67 [-4.31, -1.02] | -2.74 [-4.38, -1.11] | -2.04 [-3.59, -0.50] |
| **Model: 2** |  |  |  |  |  |  |
| Degree & higher | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) |
| A-levels, professional, or equiv. | -0.55 [-2.09, 1.00] | -0.76 [-2.33, 0.81] | 0.55 [-1.04, 2.14] | -1.01 [-2.57, 0.54] | -0.54 [-2.15, 1.06] | -1.10 [-2.57, 0.38] |
| O-levels, CSEs, or equiv. | 0.00 [-1.37, 1.37] | -0.69 [-2.23, 0.85] | -0.66 [-2.15, 0.84] | -2.52 [-4.16, -0.88] | -0.83 [-2.42, 0.75] | -2.12 [-3.52, -0.72] |
| No qualification | -2.09 [-3.79, -0.40] | -3.39 [-5.14, -1.64] | -2.70 [-4.39, -1.00] | -2.50 [-4.07, -0.93] | -2.43 [-4.02, -0.83] | -2.01 [-3.50, -0.52] |
| **Model: 3** |  |  |  |  |  |  |
| Degree & higher | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) |
| A-levels, professional, or equiv. | -0.39 [-1.92, 1.14] | -0.66 [-2.21, 0.90] | 0.72 [-0.86, 2.31] | -0.77 [-2.30, 0.77] | -0.31 [-1.89, 1.27] | -0.99 [-2.47, 0.48] |
| O-levels, CSEs, or equiv. | 0.21 [-1.15, 1.57] | -0.38 [-1.92, 1.15] | -0.39 [-1.89, 1.11] | -2.17 [-3.79, -0.55] | -0.59 [-2.15, 0.98] | -2.05 [-3.45, -0.66] |
| No qualification | -1.62 [-3.32, 0.08] | -2.97 [-4.73, -1.20] | -2.12 [-3.85, -0.38] | -1.77 [-3.36, -0.19] | -2.23 [-3.81, -0.66] | -1.81 [-3.31, -0.31] |
| **Model: 4** |  |  |  |  |  |  |
| Degree & higher | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) |
| A-levels, professional, or equiv. | -0.45 [-1.99, 1.09] | -0.69 [-2.26, 0.87] | 0.80 [-0.81, 2.40] | -0.39 [-1.95, 1.16] | 0.01 [-1.57, 1.59] | -0.98 [-2.48, 0.53] |
| O-levels, CSEs, or equiv. | 0.42 [-1.01, 1.84] | -0.34 [-1.92, 1.25] | -0.21 [-1.76, 1.33] | -1.49 [-3.15, 0.17] | -0.02 [-1.61, 1.57] | -1.99 [-3.45, -0.52] |
| No qualification | -0.90 [-2.69, 0.88] | -2.23 [-4.09, -0.37] | -1.23 [-3.05, 0.58] | -0.78 [-2.45, 0.89] | -1.47 [-3.12, 0.18] | -1.76 [-3.32, -0.20] |
| 1Coefficient: Difference in mean outcome (unit) (95% Confidence Interval) | | | | | | |

## Associations between highest qualification and grip strength in Black men.

|  | Below 45 | 45 to <50 | 50 to <55 | 55 to <60 | 60 to <65 | Above 65 |
| --- | --- | --- | --- | --- | --- | --- |
| **Highest Qualification** | **Coef. (95% CI)**1 | **Coef. (95% CI)**1 | **Coef. (95% CI)**1 | **Coef. (95% CI)**1 | **Coef. (95% CI)**1 | **Coef. (95% CI)**1 |
| **Model: 1** |  |  |  |  |  |  |
| Degree & higher | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) |
| A-levels, professional, or equiv. | 1.47 [-0.47, 3.40] | 1.51 [-0.46, 3.49] | 0.97 [-1.11, 3.05] | -0.28 [-2.56, 2.01] | 0.41 [-2.45, 3.27] | -0.40 [-3.26, 2.47] |
| O-levels, CSEs, or equiv. | 2.67 [0.83, 4.51] | 3.69 [1.82, 5.56] | 2.48 [0.34, 4.62] | -1.02 [-3.41, 1.37] | 0.20 [-3.01, 3.41] | 1.32 [-2.41, 5.06] |
| No qualification | -1.79 [-4.57, 1.00] | 1.07 [-1.46, 3.60] | 1.27 [-1.20, 3.73] | -0.29 [-2.94, 2.36] | 0.36 [-2.49, 3.21] | 1.77 [-0.81, 4.35] |
| **Model: 2** |  |  |  |  |  |  |
| Degree & higher | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) |
| A-levels, professional, or equiv. | 1.49 [-0.41, 3.39] | 1.67 [-0.23, 3.57] | 1.18 [-0.79, 3.15] | -0.26 [-2.48, 1.96] | 0.62 [-2.15, 3.39] | -0.28 [-2.99, 2.44] |
| O-levels, CSEs, or equiv. | 2.30 [0.50, 4.10] | 3.68 [1.89, 5.47] | 2.51 [0.48, 4.55] | -0.60 [-2.93, 1.73] | 0.27 [-2.84, 3.38] | 1.34 [-2.23, 4.91] |
| No qualification | -2.03 [-4.75, 0.69] | 1.32 [-1.12, 3.75] | 0.85 [-1.49, 3.19] | -0.21 [-2.79, 2.36] | 0.53 [-2.23, 3.29] | 1.48 [-0.96, 3.93] |
| **Model: 3** |  |  |  |  |  |  |
| Degree & higher | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) |
| A-levels, professional, or equiv. | 1.52 [-0.37, 3.42] | 1.79 [-0.10, 3.68] | 1.13 [-0.82, 3.07] | -0.27 [-2.44, 1.91] | 0.87 [-1.89, 3.63] | -0.30 [-2.95, 2.36] |
| O-levels, CSEs, or equiv. | 2.06 [0.27, 3.85] | 3.69 [1.91, 5.48] | 2.33 [0.30, 4.35] | -0.44 [-2.72, 1.85] | 0.10 [-3.00, 3.19] | 0.96 [-2.56, 4.48] |
| No qualification | -2.12 [-4.84, 0.60] | 1.38 [-1.05, 3.81] | 0.82 [-1.53, 3.18] | -0.23 [-2.78, 2.31] | 0.48 [-2.26, 3.22] | 1.21 [-1.17, 3.60] |
| **Model: 4** |  |  |  |  |  |  |
| Degree & higher | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) |
| A-levels, professional, or equiv. | 1.40 [-0.51, 3.31] | 1.99 [0.08, 3.90] | 1.25 [-0.73, 3.23] | -0.56 [-2.84, 1.72] | 1.06 [-1.74, 3.86] | 0.10 [-2.63, 2.82] |
| O-levels, CSEs, or equiv. | 1.64 [-0.20, 3.49] | 3.72 [1.88, 5.56] | 2.31 [0.22, 4.39] | -0.48 [-2.82, 1.87] | 0.36 [-2.88, 3.59] | 0.84 [-2.75, 4.43] |
| No qualification | -1.59 [-4.47, 1.29] | 2.04 [-0.49, 4.57] | 2.19 [-0.32, 4.70] | 0.06 [-2.69, 2.81] | 1.35 [-1.62, 4.32] | 0.94 [-1.56, 3.44] |
| 1Coefficient: Difference in mean outcome (unit) (95% Confidence Interval) | | | | | | |

## Associations between highest qualification and grip strength in men of Mixed ethnicity .

|  | Below 45 | 45 to <50 | 50 to <55 | 55 to <60 | 60 to <65 | Above 65 |
| --- | --- | --- | --- | --- | --- | --- |
| **Highest Qualification** | **Coef. (95% CI)**1 | **Coef. (95% CI)**1 | **Coef. (95% CI)**1 | **Coef. (95% CI)**1 | **Coef. (95% CI)**1 | **Coef. (95% CI)**1 |
| **Model: 1** |  |  |  |  |  |  |
| Degree & higher | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) |
| A-levels, professional, or equiv. | 0.34 [-2.66, 3.35] | 3.37 [-0.01, 6.76] | -1.72 [-5.90, 2.45] | 2.45 [-0.96, 5.86] | 1.05 [-2.81, 4.91] | -4.88 [-9.50, -0.25] |
| O-levels, CSEs, or equiv. | 2.42 [-0.66, 5.49] | 2.79 [-0.35, 5.93] | 1.46 [-2.43, 5.36] | -0.33 [-4.20, 3.55] | 1.39 [-2.91, 5.70] | -0.23 [-6.10, 5.64] |
| No qualification | 2.80 [-1.71, 7.32] | -0.26 [-4.80, 4.28] | -0.25 [-4.60, 4.10] | -5.88 [-10.21, -1.54] | 2.69 [-1.23, 6.62] | -3.24 [-7.53, 1.04] |
| **Model: 2** |  |  |  |  |  |  |
| Degree & higher | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) |
| A-levels, professional, or equiv. | 0.68 [-2.11, 3.47] | 3.55 [0.36, 6.74] | -1.49 [-5.45, 2.46] | 2.73 [-0.48, 5.94] | 0.82 [-2.89, 4.54] | -3.89 [-8.43, 0.64] |
| O-levels, CSEs, or equiv. | 2.50 [-0.36, 5.36] | 2.63 [-0.32, 5.57] | 2.09 [-1.59, 5.77] | 1.51 [-2.24, 5.26] | 1.91 [-2.24, 6.07] | 1.18 [-4.70, 7.05] |
| No qualification | 2.72 [-1.48, 6.91] | 1.79 [-2.55, 6.12] | 0.38 [-3.73, 4.49] | -4.52 [-8.65, -0.40] | 3.72 [-0.10, 7.53] | -1.62 [-5.90, 2.67] |
| **Model: 3** |  |  |  |  |  |  |
| Degree & higher | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) |
| A-levels, professional, or equiv. | 0.87 [-1.95, 3.69] | 3.83 [0.63, 7.03] | -1.29 [-5.25, 2.67] | 2.67 [-0.52, 5.85] | 0.76 [-2.96, 4.47] | -3.71 [-8.19, 0.77] |
| O-levels, CSEs, or equiv. | 2.57 [-0.29, 5.44] | 2.81 [-0.17, 5.78] | 2.08 [-1.59, 5.76] | 1.70 [-2.03, 5.43] | 2.12 [-2.03, 6.26] | 0.71 [-5.10, 6.52] |
| No qualification | 2.90 [-1.32, 7.12] | 2.04 [-2.32, 6.39] | 0.37 [-3.76, 4.50] | -4.02 [-8.18, 0.13] | 3.74 [-0.05, 7.52] | -1.30 [-5.53, 2.93] |
| **Model: 4** |  |  |  |  |  |  |
| Degree & higher | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) |
| A-levels, professional, or equiv. | 0.00 [-2.90, 2.90] | 4.21 [0.92, 7.50] | -1.54 [-5.78, 2.71] | 3.11 [-0.41, 6.63] | 0.61 [-3.32, 4.53] | -3.20 [-8.01, 1.61] |
| O-levels, CSEs, or equiv. | 1.94 [-1.13, 5.00] | 3.06 [-0.21, 6.33] | 1.69 [-2.25, 5.64] | 2.28 [-1.78, 6.33] | 1.63 [-2.75, 6.02] | 2.07 [-3.52, 7.65] |
| No qualification | 1.85 [-2.69, 6.38] | 4.40 [-0.51, 9.31] | 1.39 [-3.46, 6.23] | -3.81 [-8.35, 0.74] | 3.53 [-0.87, 7.94] | -0.48 [-4.84, 3.89] |
| 1Coefficient: Difference in mean outcome (unit) (95% Confidence Interval) | | | | | | |

## Associations between highest qualification and grip strength in men of Other ethnicity

|  | Below 45 | 45 to <50 | 50 to <55 | 55 to <60 | 60 to <65 | Above 65 |
| --- | --- | --- | --- | --- | --- | --- |
| **Highest Qualification** | **Coef. (95% CI)**1 | **Coef. (95% CI)**1 | **Coef. (95% CI)**1 | **Coef. (95% CI)**1 | **Coef. (95% CI)**1 | **Coef. (95% CI)**1 |
| **Model: 1** |  |  |  |  |  |  |
| Degree & higher | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) |
| A-levels, professional, or equiv. | 0.61 [-1.65, 2.87] | 0.03 [-2.00, 2.05] | -1.03 [-3.31, 1.25] | 0.52 [-1.72, 2.76] | -1.90 [-4.32, 0.53] | -0.04 [-2.90, 2.81] |
| O-levels, CSEs, or equiv. | 3.10 [0.58, 5.62] | -1.90 [-4.38, 0.59] | -0.04 [-2.93, 2.85] | -1.22 [-3.89, 1.46] | -1.29 [-4.22, 1.64] | 0.98 [-2.79, 4.74] |
| No qualification | -1.87 [-4.32, 0.58] | -5.06 [-7.37, -2.76] | -2.37 [-4.95, 0.21] | -4.77 [-7.54, -2.00] | -1.68 [-4.52, 1.17] | 0.46 [-2.52, 3.43] |
| **Model: 2** |  |  |  |  |  |  |
| Degree & higher | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) |
| A-levels, professional, or equiv. | 0.12 [-2.02, 2.26] | 0.58 [-1.35, 2.52] | -1.11 [-3.28, 1.05] | 0.93 [-1.22, 3.07] | -1.54 [-3.85, 0.77] | 0.08 [-2.56, 2.73] |
| O-levels, CSEs, or equiv. | 3.35 [0.96, 5.74] | -1.01 [-3.38, 1.36] | 0.34 [-2.41, 3.09] | -1.05 [-3.64, 1.53] | -1.24 [-4.03, 1.56] | 0.46 [-2.98, 3.89] |
| No qualification | -0.70 [-3.05, 1.65] | -4.01 [-6.26, -1.76] | -1.48 [-3.95, 0.99] | -3.16 [-5.86, -0.47] | -0.90 [-3.62, 1.82] | -0.58 [-3.35, 2.18] |
| **Model: 3** |  |  |  |  |  |  |
| Degree & higher | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) |
| A-levels, professional, or equiv. | 0.25 [-1.91, 2.40] | 0.65 [-1.28, 2.59] | -0.80 [-2.98, 1.39] | 0.83 [-1.31, 2.98] | -1.38 [-3.72, 0.96] | 0.09 [-2.56, 2.73] |
| O-levels, CSEs, or equiv. | 3.62 [1.23, 6.01] | -0.80 [-3.19, 1.59] | 0.45 [-2.31, 3.21] | -0.91 [-3.51, 1.68] | -1.41 [-4.20, 1.38] | 0.59 [-2.86, 4.04] |
| No qualification | -0.37 [-2.72, 1.98] | -3.83 [-6.08, -1.57] | -1.08 [-3.57, 1.42] | -2.94 [-5.64, -0.24] | -0.55 [-3.30, 2.20] | -0.50 [-3.26, 2.26] |
| **Model: 4** |  |  |  |  |  |  |
| Degree & higher | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) | 0.00 (ref) |
| A-levels, professional, or equiv. | 0.15 [-2.11, 2.41] | 0.21 [-1.81, 2.23] | -0.97 [-3.23, 1.30] | 1.13 [-1.04, 3.31] | -1.91 [-4.41, 0.59] | 0.06 [-2.73, 2.86] |
| O-levels, CSEs, or equiv. | 3.18 [0.66, 5.69] | -1.11 [-3.58, 1.35] | 0.92 [-1.98, 3.82] | -0.33 [-3.01, 2.35] | -1.67 [-4.57, 1.23] | 0.24 [-3.37, 3.85] |
| No qualification | -0.05 [-2.57, 2.48] | -3.58 [-5.97, -1.19] | -0.44 [-3.15, 2.26] | -2.84 [-5.66, -0.02] | -0.59 [-3.50, 2.32] | -0.44 [-3.49, 2.62] |
| 1Coefficient: Difference in mean outcome (unit) (95% Confidence Interval) | | | | | | |