# Tolerance Levels in Post-Secondary Students

Introduction to Social Statistics LS280

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## Statement of Research Question

This research is designed to study tolerance levels of first year post-secondary students studying in Waterloo region and Guelph based on social categories including gender, country of origin, and family income.

## Table of Original Questions

| Question | IV/DV | Question/Statement | Original Category Responses | | | | | |
|---|---|---|---|---|---|---|---|---|
| 55 | DV Ordinal | This country would have fewer problems if there was more emphasis on traditional family ties. | Strongly Agree | Agree | Neither Agree nor Disagree | Disagree | Strongly Disagree | No answer |
| 56 | DV Ordinal | Same sex couples should be allowed to marry. | Strongly Agree | Agree | Neither Agree nor Disagree | Disagree | Strongly Disagree | No answer |
| 58 | DV Ordinal | In our society, you should be responsible for your own welfare, and others should be responsible for theirs. | Strongly Agree | Agree | Neither Agree nor Disagree | Disagree | Strongly Disagree | No answer |
| 62 | DV Ordinal | Newer lifestyles, like common law or same sex marriages, are contributing to the breakdown of our society. | Strongly Agree | Agree | Neither Agree nor Disagree | Disagree | Strongly Disagree | No answer |
| 63 | DV Ordinal | Recent immigrants should have as much say about the future of the country as people who are born and raised here. | Strongly Agree | Agree | Neither Agree nor Disagree | Disagree | Strongly Disagree | No answer |
| 64 | DV Ordinal | We should be tolerant of people who choose to live according to their own moral standards even if they are very different from our own. | Strongly Agree | Agree | Neither Agree nor Disagree | Disagree | Strongly Disagree | No answer |
| 65 | DV Ordinal | Gays and lesbians should have all the rights and privileges that heterosexuals do in our society. | Strongly Agree | Agree | Neither Agree nor Disagree | Disagree | Strongly Disagree | No answer |
| 66 | DV Ordinal | A group that tolerates too many differences of opinion among its own members cannot exist for long. | Strongly Agree | Agree | Neither Agree nor Disagree | Disagree | Strongly Disagree | No answer |
| 68 | DV Ordinal | A society that has a variety of ethnic and cultural groups is more able to tackle new problems as they occur. | Strongly Agree | Agree | Neither Agree nor Disagree | Disagree | Strongly Disagree | No answer |

| Question | IV/DV | Question/ Statement | Original Category Responses | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 78 | IV Nominal | What is your sex? | Male | Female | | | | | | No Answer |
| 90<br><br>(91 on survey) | IV Nominal | For Conestoga College Students: | School of Business | School of Engineering and Information and Technology | School of Health Sciences, Community Services, and Biotechnology | School of Liberal and Media Studies | School of Trades and Apprentice ship | | | |
| 91 (q92 on survey) | IV Nominal | For University of Guelph Students: | Arts | Agriculture | Veterinary Sciences | Engineeri ng & Physical Sciences | Social Sciences | Biological Sciences | Manage ment and Econom ics | |
| 92 (q93 on survey) | IV Nominal | For University of Waterloo Students: | Arts | Environmen tal Studies | Applied Health Sciences | Engineeri ng | Math | Science | | |
| 93 (q94 on survey) | IV Nominal | For Wilfrid Laurier University Students: | Arts | Business & Economics | Science | Music | | | | |
| 96 (q95 on survey) | IV Nominal | Were you born in Canada? | Yes | No | | | | | | No Answer |
| 98 (q96 on survey) | IV Nominal | To the best of your knowledge, what was your total family income in 2005? | Less than $40, 000 | $40, 000 to $59, 999 | $60, 000 to $79, 999 | $80, 000 to $99, 999 | $100, 000 to $150, 000 | More than $150, 000 | Don’t Know | No Answer |

## Rationale for Recoding

Question 55: Recoded to eliminate “No Answer” response.

Original:

**Statistics**

This country would have fewer problems if there was more emphasis on traditional family ties.

| | | |
|---|---|---|
| N | Valid | 1533 |
| | Missing | 0 |
| Mean | | 2.7743 |
| Median | | 3.0000 |
| Mode | | 3.00 |

Recoded:

**Statistics**

This country would have fewer problems if there was more emphasis on traditional family ties.

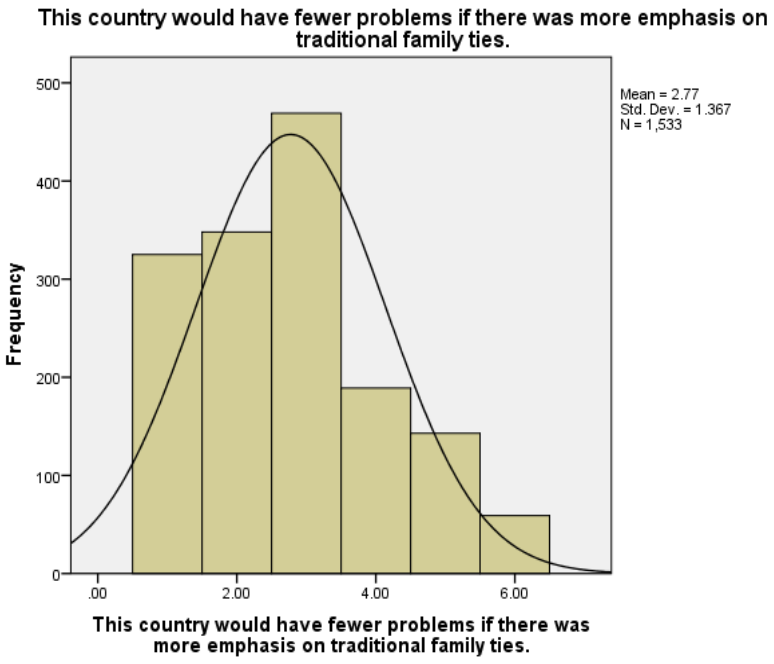
| | | |
|---|---|---|
| N | Valid | 1474 |
| | Missing | 59 |
| Mean | | 2.6452 |
| Median | | 3.0000 |
| Mode | | 3.00 |

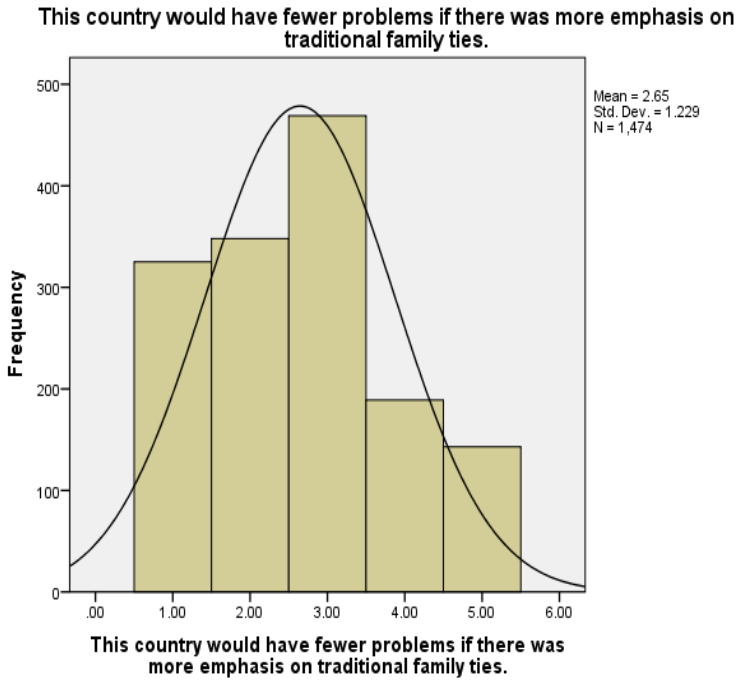
**This country would have fewer problems if there was more emphasis on traditional family ties.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | 1 Strongly Agree | 325 | 21.2 | 21.2 | 21.2 |
| | 2 | 348 | 22.7 | 22.7 | 43.9 |
| | 3 | 469 | 30.6 | 30.6 | 74.5 |
| | 4 | 189 | 12.3 | 12.3 | 86.8 |
| | 5 Strongly Disagree | 143 | 9.3 | 9.3 | 96.2 |
| | No answer | 59 | 3.8 | 3.8 | 100.0 |
| | Total | 1533 | 100.0 | 100.0 | |

**This country would have fewer problems if there was more emphasis on traditional family ties.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | 1 Strongly Agree | 325 | 21.2 | 22.0 | 22.0 |
| | 2 | 348 | 22.7 | 23.6 | 45.7 |
| | 3 | 469 | 30.6 | 31.8 | 77.5 |
| | 4 | 189 | 12.3 | 12.8 | 90.3 |
| | 5 Strongly Disagree | 143 | 9.3 | 9.7 | 100.0 |
| | Total | 1474 | 96.2 | 100.0 | |
| Missing | No answer | 59 | 3.8 | | |
| Total | | 1533 | 100.0 | | |



Question 56: Recoded to eliminate “No Answer” response and reverse direction of scoring.

Original:

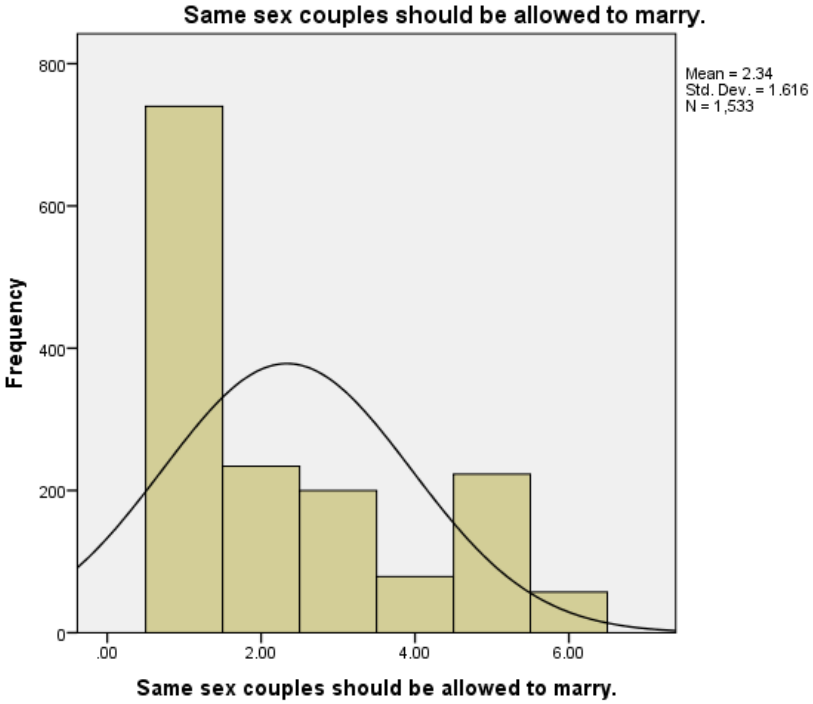
**Statistics**

Same sex couples should be allowed to marry.

| | | |
|---|---|---|
| N | Valid | 1533 |
| | Missing | 0 |
| Mean | | 2.3359 |
| Median | | 2.0000 |
| Mode | | 1.00 |

**Same sex couples should be allowed to marry.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | 1 Strongly Agree | 740 | 48.3 | 48.3 | 48.3 |
| | 2 | 234 | 15.3 | 15.3 | 63.5 |
| | 3 | 200 | 13.0 | 13.0 | 76.6 |
| | 4 | 79 | 5.2 | 5.2 | 81.7 |
| | 5 Strongly Disagree | 223 | 14.5 | 14.5 | 96.3 |
| | No answer | 57 | 3.7 | 3.7 | 100.0 |
| | Total | 1533 | 100.0 | 100.0 | |




Recoded:

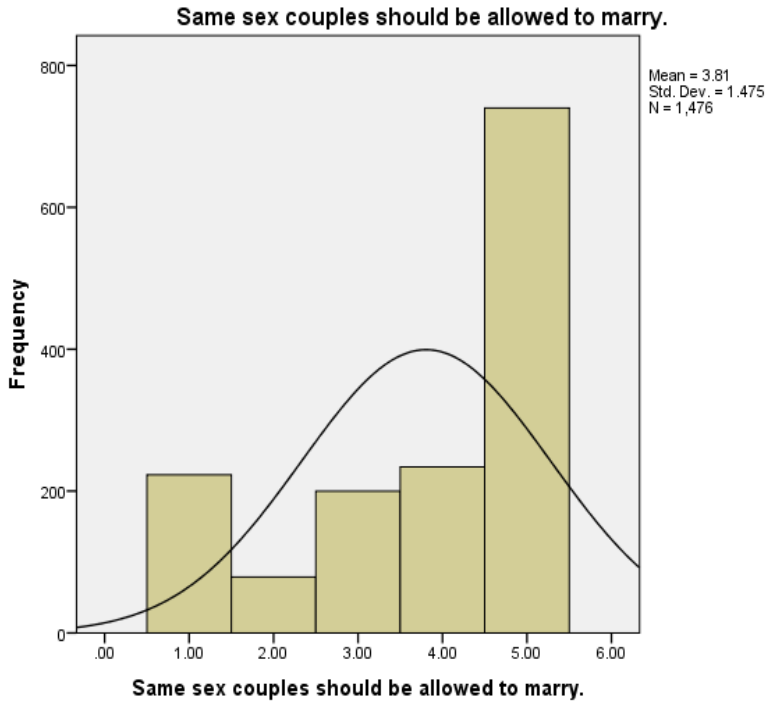
**Statistics**

Same sex couples should be allowed to marry.

| | | |
|---|---|---|
| N | Valid | 1476 |
| | Missing | 57 |
| Mean | | 3.8056 |
| Median | | 5.0000 |
| Mode | | 5.00 |

**Same sex couples should be allowed to marry.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | 1 Strongly Disagree | 223 | 14.5 | 15.1 | 15.1 |
| | 2 | 79 | 5.2 | 5.4 | 20.5 |
| | 3 | 200 | 13.0 | 13.6 | 34.0 |
| | 4 | 234 | 15.3 | 15.9 | 49.9 |
| | 5 Strongly Agree | 740 | 48.3 | 50.1 | 100.0 |
| | Total | 1476 | 96.3 | 100.0 | |
| Missing | System | 57 | 3.7 | | |
| Total | | 1533 | 100.0 | | |



Question 58: Recoded to eliminate “No Answer” response.

Original:

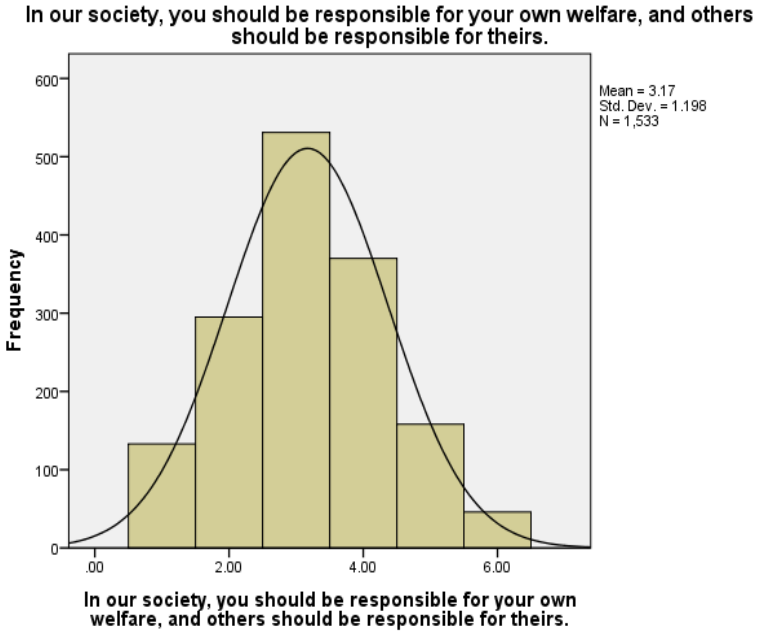
**Statistics**

In our society, you should be responsible for your own welfare, and others should be responsible for theirs.

| | | |
|---|---|---|
| N | Valid | 1533 |
| | Missing | 0 |
| Mean | | 3.1716 |
| Median | | 3.0000 |
| Mode | | 3.00 |

**In our society, you should be responsible for your own welfare, and others should be responsible for theirs.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | 1 Strongly Agree | 133 | 8.7 | 8.7 | 8.7 |
| | 2 | 295 | 19.2 | 19.2 | 27.9 |
| | 3 | 531 | 34.6 | 34.6 | 62.6 |
| | 4 | 370 | 24.1 | 24.1 | 86.7 |
| | 5 Strongly Disagree | 158 | 10.3 | 10.3 | 97.0 |
| | No answer | 46 | 3.0 | 3.0 | 100.0 |
| | Total | 1533 | 100.0 | 100.0 | |




Recoded:

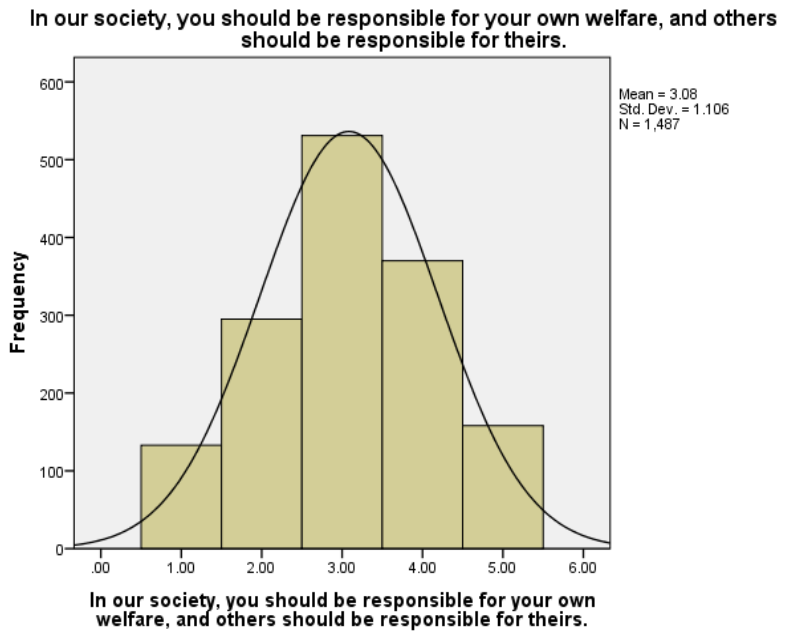
**Statistics**

In our society, you should be responsible for your own welfare, and others should be responsible for theirs.

| | | |
|---|---|---|
| N | Valid | 1487 |
| | Missing | 46 |
| Mean | | 3.0841 |
| Median | | 3.0000 |
| Mode | | 3.00 |

**In our society, you should be responsible for your own welfare, and others should be responsible for theirs.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | 1 Strongly Agree | 133 | 8.7 | 8.9 | 8.9 |
| | 2 | 295 | 19.2 | 19.8 | 28.8 |
| | 3 | 531 | 34.6 | 35.7 | 64.5 |
| | 4 | 370 | 24.1 | 24.9 | 89.4 |
| | 5 Strongly Disagree | 158 | 10.3 | 10.6 | 100.0 |
| | Total | 1487 | 97.0 | 100.0 | |
| Missing | No answer | 46 | 3.0 | | |
| Total | | 1533 | 100.0 | | |



Question 62: Recoded to eliminate “No Answer” response.

Original:

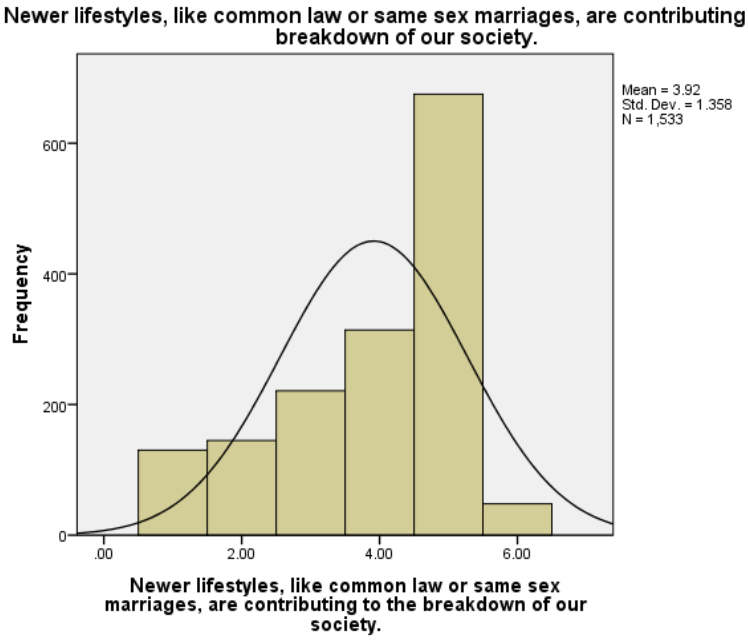
**Statistics**

Newer lifestyles, like common law or same sex marriages, are contributing to the breakdown of our society.

| | | |
|---|---|---|
| N | Valid | 1533 |
| | Missing | 0 |
| Mean | | 3.9152 |
| Median | | 4.0000 |
| Mode | | 5.00 |

**Newer lifestyles, like common law or same sex marriages, are contributing to the breakdown of our society.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | 1 Agree Strongly | 130 | 8.5 | 8.5 | 8.5 |
| | 2 | 145 | 9.5 | 9.5 | 17.9 |
| | 3 | 221 | 14.4 | 14.4 | 32.4 |
| | 4 | 314 | 20.5 | 20.5 | 52.8 |
| | 5 Disagree Strongly | 675 | 44.0 | 44.0 | 96.9 |
| | No answer | 48 | 3.1 | 3.1 | 100.0 |
| | Total | 1533 | 100.0 | 100.0 | |




Recoded:

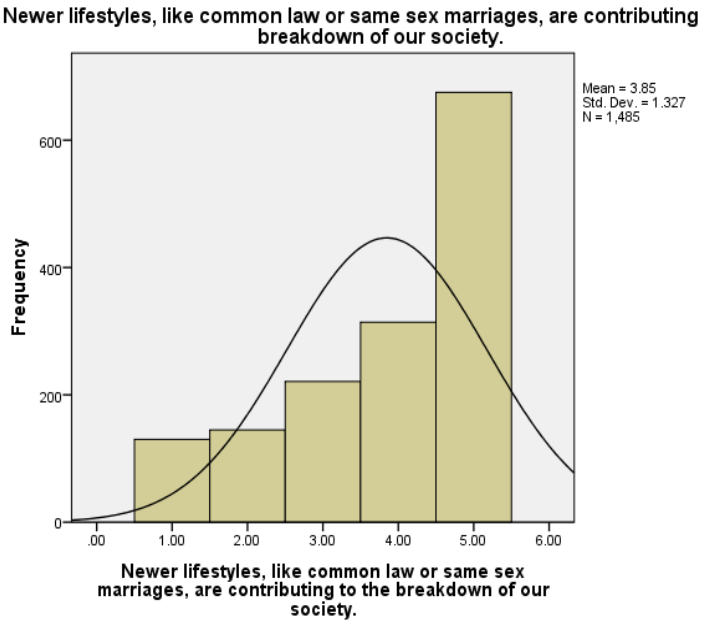
**Statistics**

Newer lifestyles, like common law or same sex marriages, are contributing to the breakdown of our society.

| | | |
|---|---|---|
| N | Valid | 1485 |
| | Missing | 48 |
| Mean | | 3.8478 |
| Median | | 4.0000 |
| Mode | | 5.00 |

**Newer lifestyles, like common law or same sex marriages, are contributing to the breakdown of our society.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | 1 Agree Strongly | 130 | 8.5 | 8.8 | 8.8 |
| | 2 | 145 | 9.5 | 9.8 | 18.5 |
| | 3 | 221 | 14.4 | 14.9 | 33.4 |
| | 4 | 314 | 20.5 | 21.1 | 54.5 |
| | 5 Disagree Strongly | 675 | 44.0 | 45.5 | 100.0 |
| | Total | 1485 | 96.9 | 100.0 | |
| Missing | No answer | 48 | 3.1 | | |
| Total | | 1533 | 100.0 | | |



Question 63: Recoded to eliminate “No Answer” response and reverse direction of scoring.

Original:

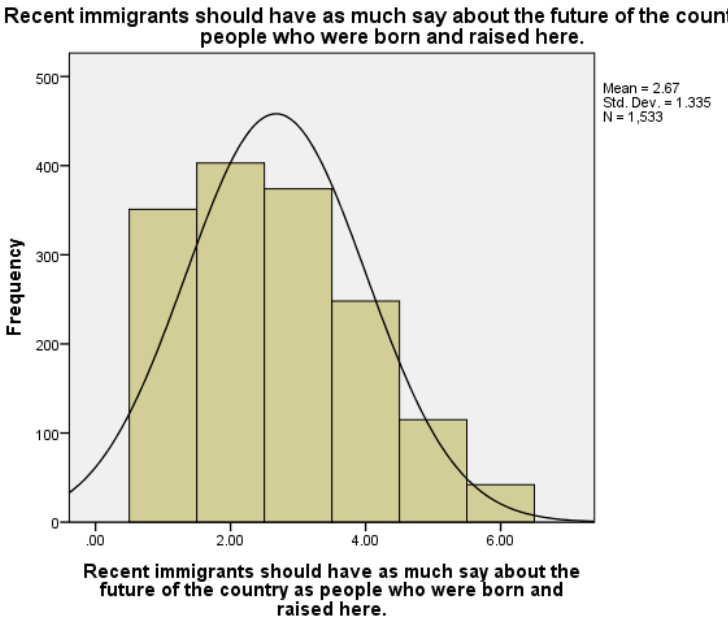
**Statistics**

Recent immigrants should have as much say about the future of the country as people who were born and raised here.

| | | |
|---|---|---|
| N | Valid | 1533 |
| | Missing | 0 |
| Mean | | 2.6732 |
| Median | | 3.0000 |
| Mode | | 2.00 |

**Recent immigrants should have as much say about the future of the country as people who were born and raised here.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | 1 Agree Strongly | 351 | 22.9 | 22.9 | 22.9 |
| | 2 | 403 | 26.3 | 26.3 | 49.2 |
| | 3 | 374 | 24.4 | 24.4 | 73.6 |
| | 4 | 248 | 16.2 | 16.2 | 89.8 |
| | 5 Disagree Strongly | 115 | 7.5 | 7.5 | 97.3 |
| | No answer | 42 | 2.7 | 2.7 | 100.0 |
| | Total | 1533 | 100.0 | 100.0 | |




Recoded:

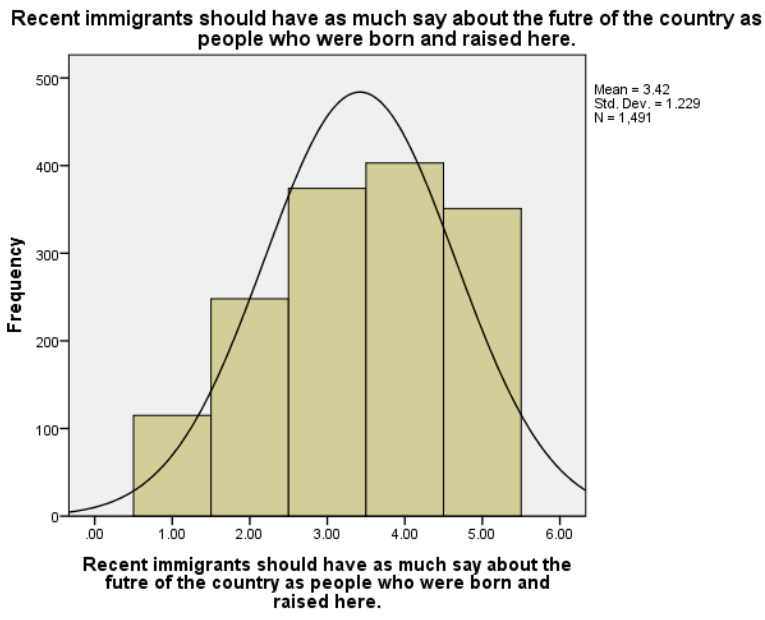
**Statistics**

Recent immigrants should have as much say about the future of the country as people who were born and raised here.

| | | |
|---|---|---|
| N | Valid | 1491 |
| | Missing | 42 |
| Mean | | 3.4205 |
| Median | | 4.0000 |
| Mode | | 4.00 |

**Recent immigrants should have as much say about the futre of the country as people who were born and raised here.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | 1 Disagree Strongly | 115 | 7.5 | 7.7 | 7.7 |
| | 2 | 248 | 16.2 | 16.6 | 24.3 |
| | 3 | 374 | 24.4 | 25.1 | 49.4 |
| | 4 | 403 | 26.3 | 27.0 | 76.5 |
| | 5 Agree Strongly | 351 | 22.9 | 23.5 | 100.0 |
| | Total | 1491 | 97.3 | 100.0 | |
| Missing | System | 42 | 2.7 | | |
| Total | | 1533 | 100.0 | | |



Question 64: Recoded to eliminate “No Answer” response and reverse direction of scoring.

Original:

**Statistics**

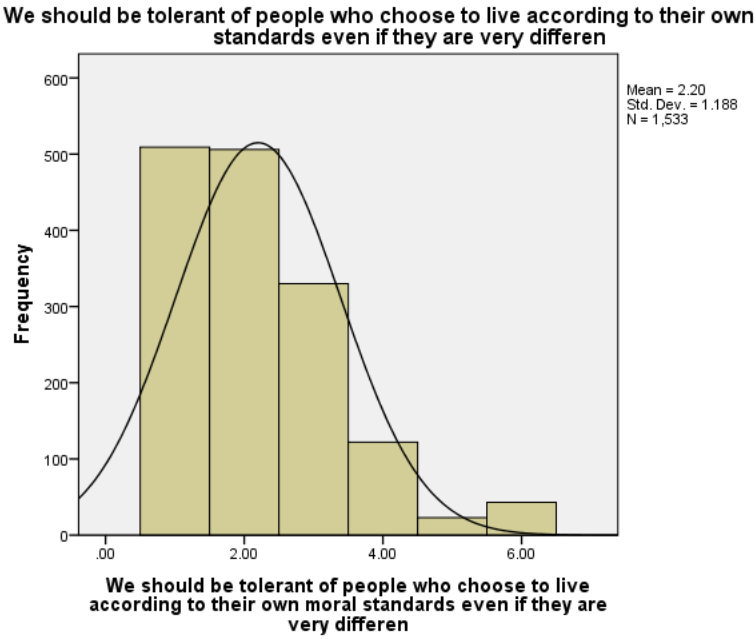
We should be tolerant of people who choose to live according to their own moral standards even if they are very different

| | | |
|---|---|---|
| N | Valid | 1533 |
| | Missing | 0 |
| Mean | | 2.1996 |
| Median | | 2.0000 |
| Mode | | 1.00 |

**We should be tolerant of people who choose to live according to their own moral standards even if they are very differen**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | 1 Agree Strongly | 509 | 33.2 | 33.2 | 33.2 |
| | 2 | 506 | 33.0 | 33.0 | 66.2 |
| | 3 | 330 | 21.5 | 21.5 | 87.7 |
| | 4 | 122 | 8.0 | 8.0 | 95.7 |
| | 5 Disagree Strongly | 23 | 1.5 | 1.5 | 97.2 |
| | No answer | 43 | 2.8 | 2.8 | 100.0 |
| | Total | 1533 | 100.0 | 100.0 | |

**We should be tolerant of people who choose to live according to their own moral standards even if they are very differen**




Recoded:

**Statistics**

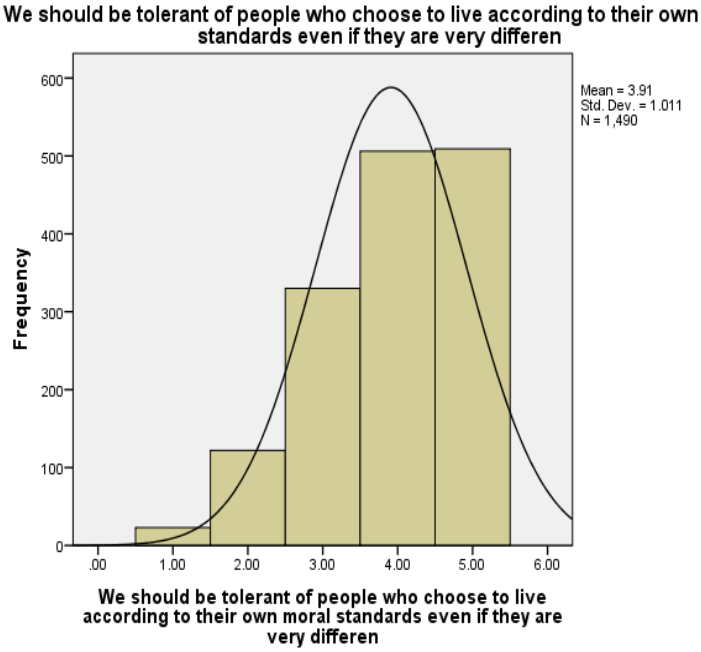
We should be tolerant of people who choose to live according to their own moral standards even if they are very different

| | | |
|---|---|---|
| N | Valid | 1490 |
| | Missing | 43 |
| Mean | | 3.9101 |
| Median | | 4.0000 |
| Mode | | 5.00 |

**We should be tolerant of people who choose to live according to their own moral standards even if they are very differen**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | 1 Disagree Strongly | 23 | 1.5 | 1.5 | 1.5 |
| | 2 | 122 | 8.0 | 8.2 | 9.7 |
| | 3 | 330 | 21.5 | 22.1 | 31.9 |
| | 4 | 506 | 33.0 | 34.0 | 65.8 |
| | 5 Agree Strongly | 509 | 33.2 | 34.2 | 100.0 |
| | Total | 1490 | 97.2 | 100.0 | |
| Missing | System | 43 | 2.8 | | |
| Total | | 1533 | 100.0 | | |

**We should be tolerant of people who choose to live according to their own moral standards even if they are very differen**



Question 65: Recoded to eliminate “No Answer” response and reverse direction of scoring.

Original:

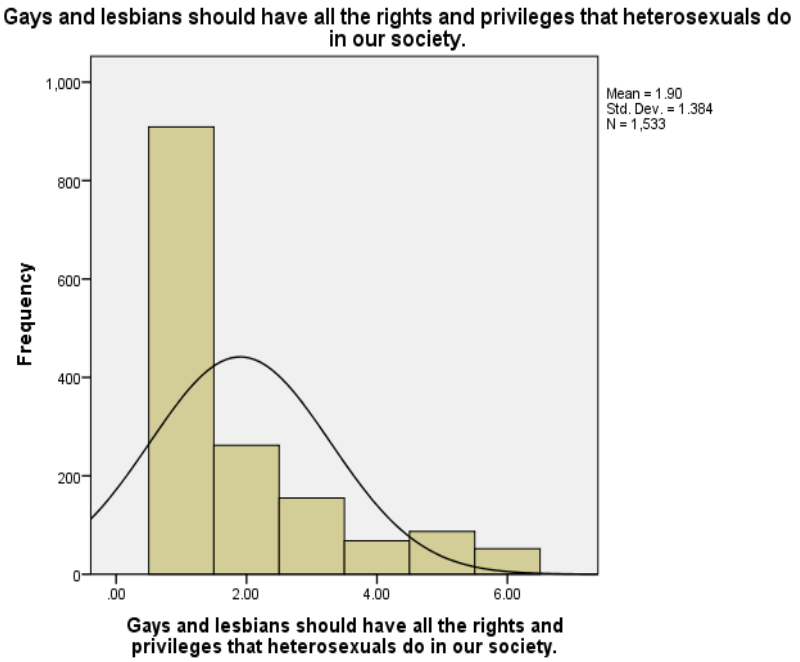
**Statistics**

Gays and lesbians should have all the rights and privileges that heterosexuals do in our society.

| | | |
|---|---|---|
| N | Valid | 1533 |
| | Missing | 0 |
| Mean | | 1.9028 |
| Median | | 1.0000 |
| Mode | | 1.00 |

**Gays and lesbians should have all the rights and privileges that heterosexuals do in our society.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | 1 Agree Strongly | 909 | 59.3 | 59.3 | 59.3 |
| | 2 | 262 | 17.1 | 17.1 | 76.4 |
| | 3 | 155 | 10.1 | 10.1 | 86.5 |
| | 4 | 68 | 4.4 | 4.4 | 90.9 |
| | 5 Disagree Strongly | 87 | 5.7 | 5.7 | 96.6 |
| | No answer | 52 | 3.4 | 3.4 | 100.0 |
| | Total | 1533 | 100.0 | 100.0 | |




Recoded:

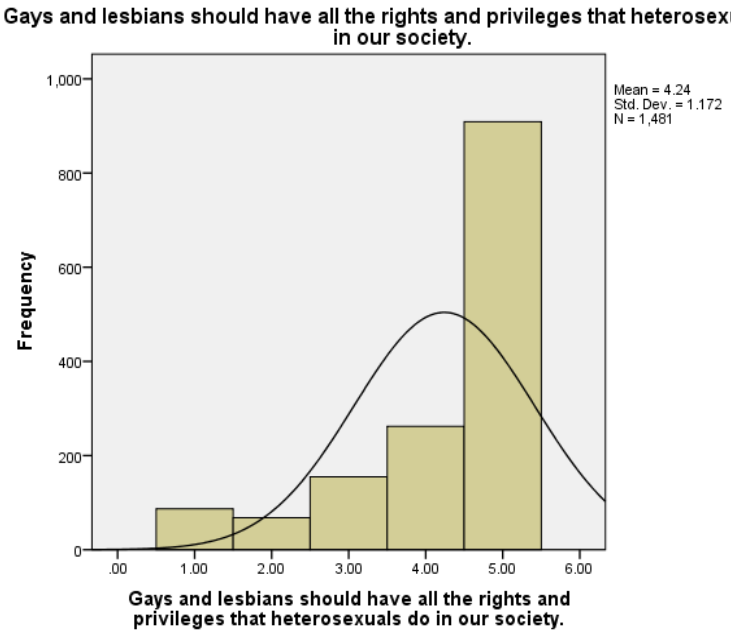
**Statistics**

Gays and lesbians should have all the rights and privileges that heterosexuals do in our society.

| | | |
|---|---|---|
| N | Valid | 1481 |
| | Missing | 52 |
| Mean | | 4.2411 |
| Median | | 5.0000 |
| Mode | | 5.00 |

**Gays and lesbians should have all the rights and privileges that heterosexuals do in our society.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | 1 Disagree Strongly | 87 | 5.7 | 5.9 | 5.9 |
| | 2 | 68 | 4.4 | 4.6 | 10.5 |
| | 3 | 155 | 10.1 | 10.5 | 20.9 |
| | 4 | 262 | 17.1 | 17.7 | 38.6 |
| | 5 Agree Strongly | 909 | 59.3 | 61.4 | 100.0 |
| | Total | 1481 | 96.6 | 100.0 | |
| Missing | System | 52 | 3.4 | | |
| Total | | 1533 | 100.0 | | |



Question 66: Recoded to eliminate “No Answer” response.

Original:

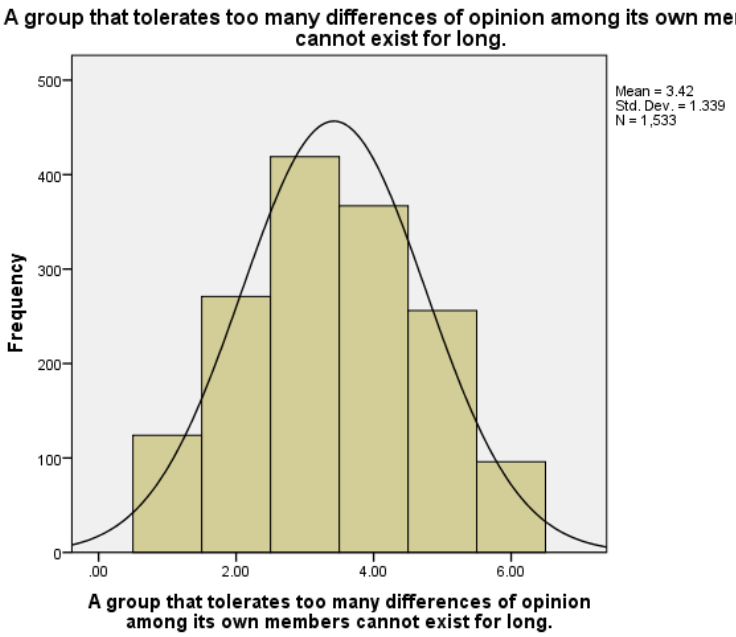
**Statistics**

A group that tolerates too many differences of opinion among its own members cannot exist for long.

| | | |
|---|---|---|
| N | Valid | 1533 |
| | Missing | 0 |
| Mean | | 3.4227 |
| Median | | 3.0000 |
| Mode | | 3.00 |

**A group that tolerates too many differences of opinion among its own members cannot exist for long.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | 1 Agree Strongly | 124 | 8.1 | 8.1 | 8.1 |
| | 2 | 271 | 17.7 | 17.7 | 25.8 |
| | 3 | 419 | 27.3 | 27.3 | 53.1 |
| | 4 | 367 | 23.9 | 23.9 | 77.0 |
| | 5 Disagree Strongly | 256 | 16.7 | 16.7 | 93.7 |
| | No answer | 96 | 6.3 | 6.3 | 100.0 |
| | Total | 1533 | 100.0 | 100.0 | |




Recoded:

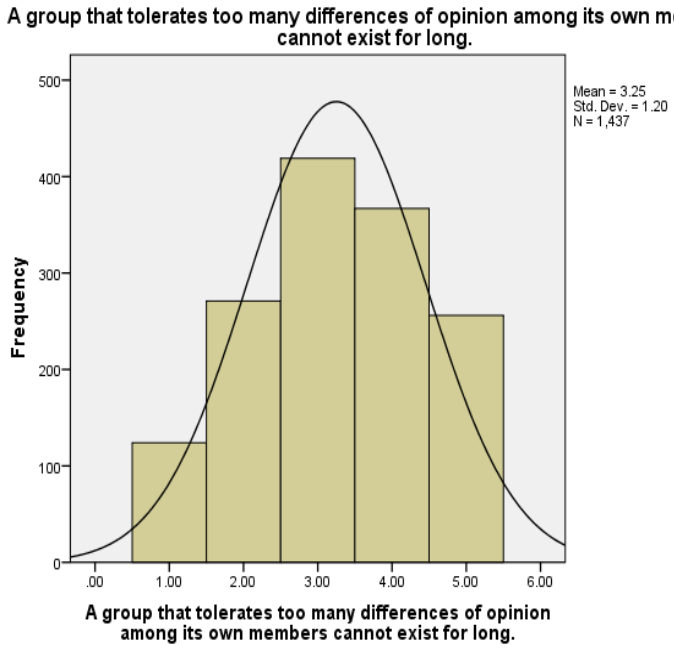
**Statistics**

A group that tolerates too many differences of opinion among its own members cannot exist for long.

| | | |
|---|---|---|
| N | Valid | 1437 |
| | Missing | 96 |
| Mean | | 3.2505 |
| Median | | 3.0000 |
| Mode | | 3.00 |

**A group that tolerates too many differences of opinion among its own members cannot exist for long.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | 1 Agree Strongly | 124 | 8.1 | 8.6 | 8.6 |
| | 2 | 271 | 17.7 | 18.9 | 27.5 |
| | 3 | 419 | 27.3 | 29.2 | 56.6 |
| | 4 | 367 | 23.9 | 25.5 | 82.2 |
| | 5 Disagree Strongly | 256 | 16.7 | 17.8 | 100.0 |
| | Total | 1437 | 93.7 | 100.0 | |
| Missing | No answer | 96 | 6.3 | | |
| Total | | 1533 | 100.0 | | |



Question 68: Recoded to eliminate “No Answer” response and reverse direction of scoring.

Original:

**Statistics**

A society that has a variety of ethnic and cultural groups is more able to tackle new problems as they occur.

| | | |
|---|---|---|
| N | Valid | 1533 |
| | Missing | 0 |
| Mean | | 2.3725 |
| Median | | 2.0000 |
| Mode | | 2.00 |

Recoded:

**Statistics**

A society that has a variety of ethnic and cultural groups is more able to tackle new problems as they occur.

| | | |
|---|---|---|
| N | Valid | 1463 |
| | Missing | 70 |
| Mean | | 3.8011 |
| Median | | 4.0000 |
| Mode | | 4.00 |

**cultural groups is more able to tackle new s they occur.**

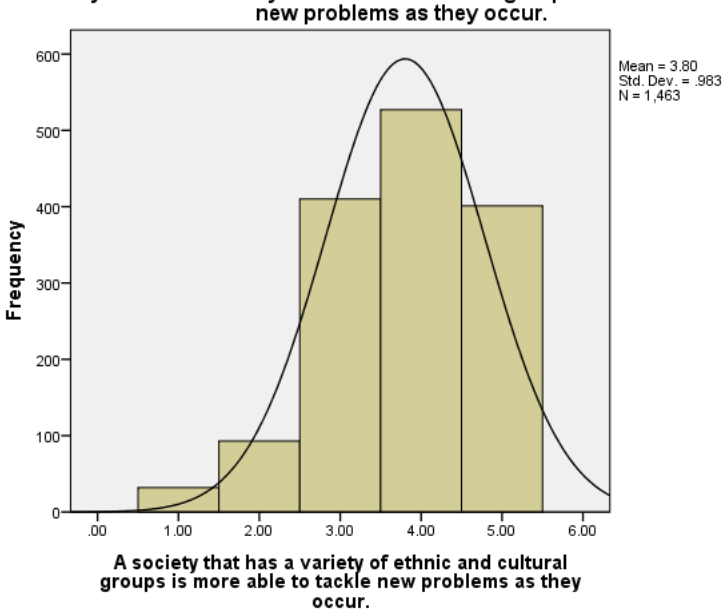
| Percent | Valid Percent | Cumulative Percent |
|---|---|---|
| 26.2 | 26.2 | 26.2 |
| 34.4 | 34.4 | 60.5 |
| 26.7 | 26.7 | 87.3 |
| 6.1 | 6.1 | 93.3 |
| 2.1 | 2.1 | 95.4 |
| 4.6 | 4.6 | 100.0 |
| 100.0 | 100.0 | |

**A society that has a variety of ethnic and cultural groups is more able to tackle new problems as they occur.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | 1 Disagree Strongly | 32 | 2.1 | 2.2 | 2.2 |
| | 2 | 93 | 6.1 | 6.4 | 8.5 |
| | 3 | 410 | 26.7 | 28.0 | 36.6 |
| | 4 | 527 | 34.4 | 36.0 | 72.6 |
| | 5 Agree Strongly | 401 | 26.2 | 27.4 | 100.0 |
| | Total | 1463 | 95.4 | 100.0 | |
| Missing | System | 70 | 4.6 | | |
| Total | | 1533 | 100.0 | | |

**and cultural groups is more able to tackle ms as they occur.**


**A society that has a variety of ethnic and cultural groups is more able to tackle new problems as they occur.**



Question 78: Recoded to eliminate “No Answer” response.

Original:

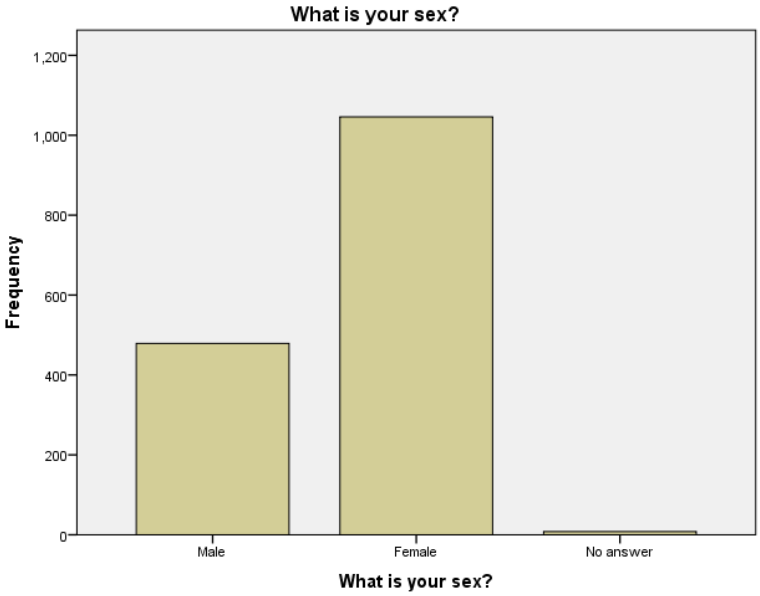
**Statistics**

What is your sex?

| | | |
|---|---|---|
| N | Valid | 1533 |
| | Missing | 0 |

**What is your sex?**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Male | 479 | 31.2 | 31.2 | 31.2 |
| | Female | 1046 | 68.2 | 68.2 | 99.5 |
| | No answer | 8 | .5 | .5 | 100.0 |
| | Total | 1533 | 100.0 | 100.0 | |




Recoded:

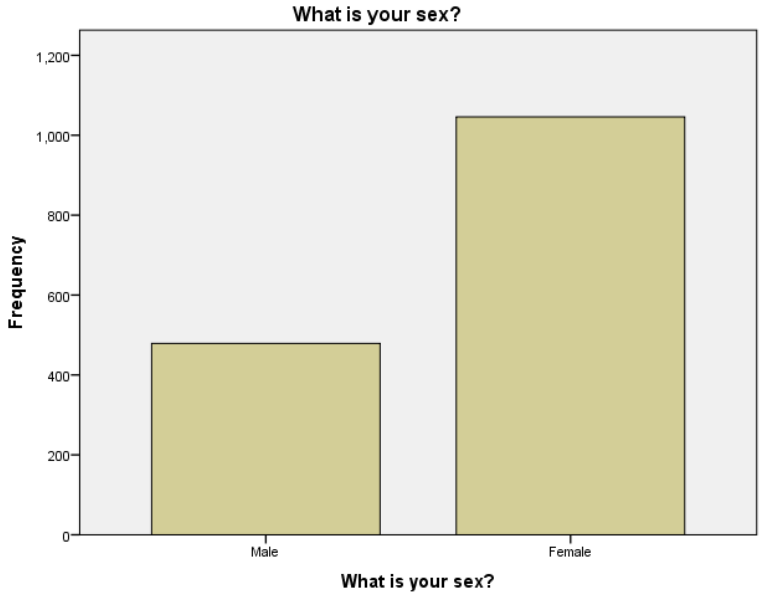
**Statistics**

What is your sex?

| | | |
|---|---|---|
| N | Valid | 1525 |
| | Missing | 8 |

**What is your sex?**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Male | 479 | 31.2 | 31.4 | 31.4 |
| | Female | 1046 | 68.2 | 68.6 | 100.0 |
| | Total | 1525 | 99.5 | 100.0 | |
| Missing | No answer | 8 | .5 | | |
| Total | | 1533 | 100.0 | | |



Question 91: Recoded to eliminate system missing.

Original:

**Statistics**

Conestoga College:

| | | |
|---|---|---|
| N | Valid | 1533 |
| | Missing | 0 |

Recoded:

**Statistics**

Conestoga College:

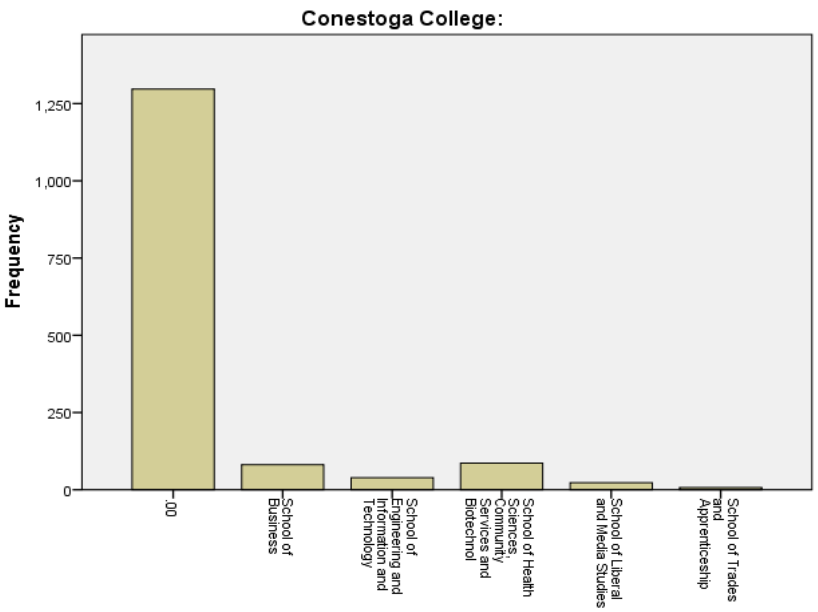
| | | |
|---|---|---|
| N | Valid | 236 |
| | Missing | 1297 |

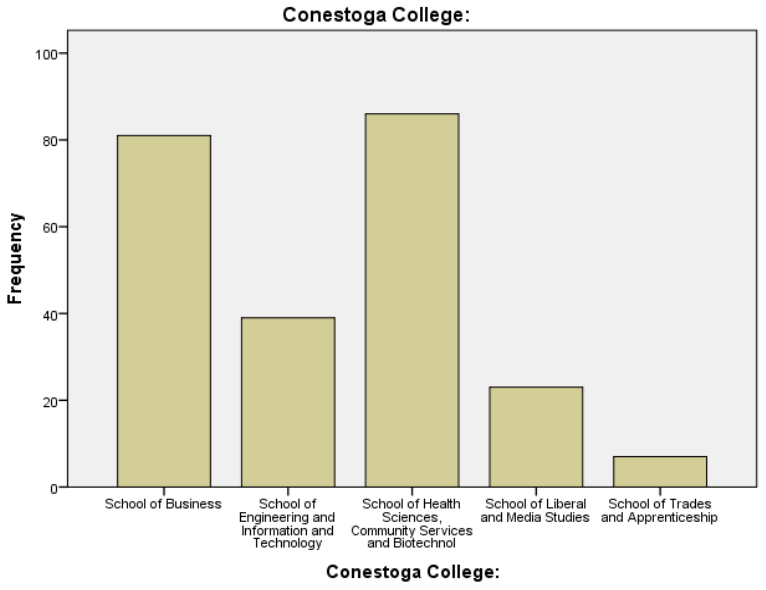
**Conestoga College:**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | .00 | 1297 | 84.6 | 84.6 | 84.6 |
| | School of Business | 81 | 5.3 | 5.3 | 89.9 |
| | School of Engineering and Information and Technology | 39 | 2.5 | 2.5 | 92.4 |
| | School of Health Sciences, Community Services and Biotechnol | 86 | 5.6 | 5.6 | 98.0 |
| | School of Liberal and Media Studies | 23 | 1.5 | 1.5 | 99.5 |
| | School of Trades and Apprenticeship | 7 | .5 | .5 | 100.0 |
| | Total | 1533 | 100.0 | 100.0 | |

**Conestoga College:**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | School of Business | 81 | 5.3 | 34.3 | 34.3 |
| | School of Engineering and Information and Technology | 39 | 2.5 | 16.5 | 50.8 |
| | School of Health Sciences, Community Services and Biotechnol | 86 | 5.6 | 36.4 | 87.3 |
| | School of Liberal and Media Studies | 23 | 1.5 | 9.7 | 97.0 |
| | School of Trades and Apprenticeship | 7 | .5 | 3.0 | 100.0 |
| | Total | 236 | 15.4 | 100.0 | |
| Missing | System | 1297 | 84.6 | | |
| Total | | 1533 | 100.0 | | |



Question 92: Recoded to eliminate system missing.

Original:

**Statistics**

University of Guelph:

| | | |
|---|---|---|
| N | Valid | 1533 |
| | Missing | 0 |

Recoded:

**Statistics**

University of Guelph:

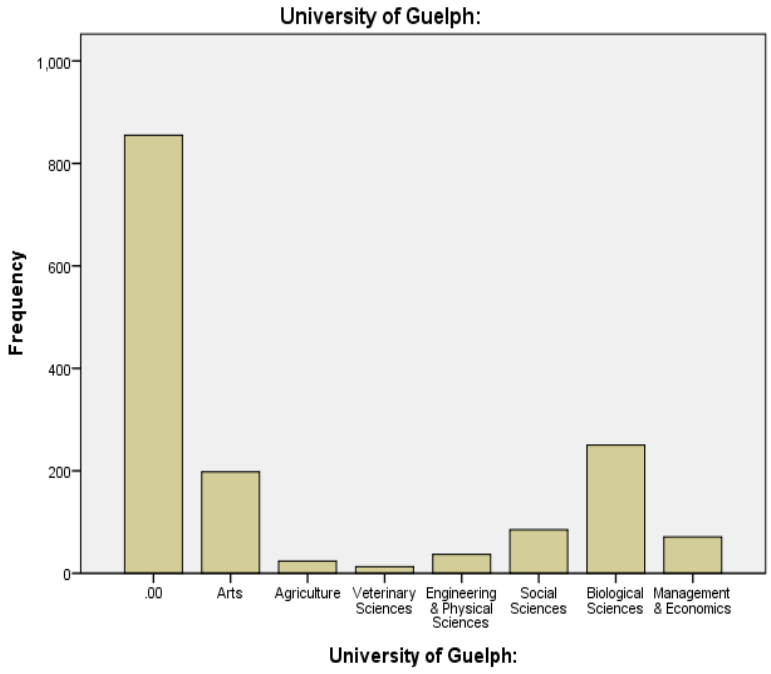
| | | |
|---|---|---|
| N | Valid | 678 |
| | Missing | 855 |

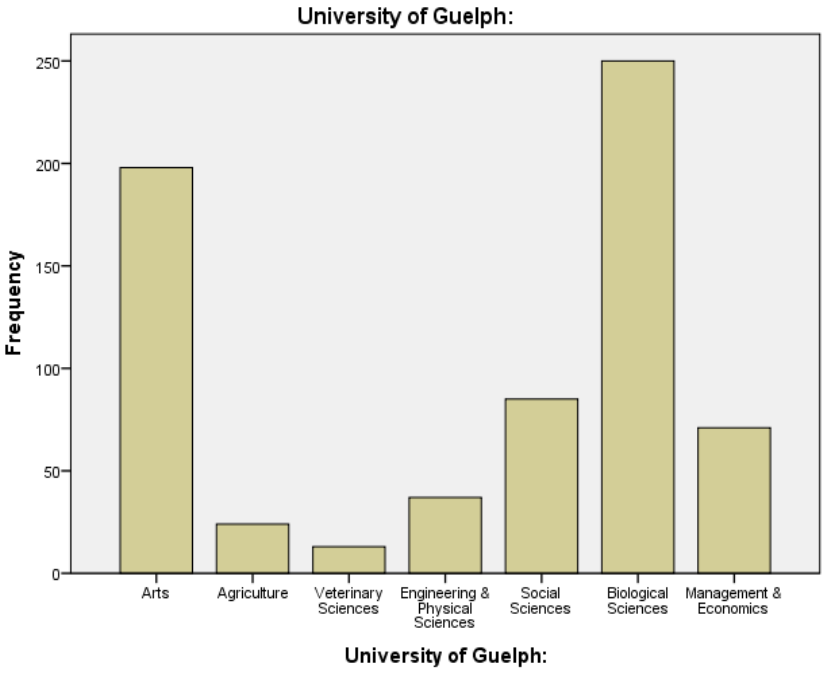
**University of Guelph:**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | .00 | 855 | 55.8 | 55.8 | 55.8 |
| | Arts | 198 | 12.9 | 12.9 | 68.7 |
| | Agriculture | 24 | 1.6 | 1.6 | 70.3 |
| | Veterinary Sciences | 13 | .8 | .8 | 71.1 |
| | Engineering & Physical Sciences | 37 | 2.4 | 2.4 | 73.5 |
| | Social Sciences | 85 | 5.5 | 5.5 | 79.1 |
| | Biological Sciences | 250 | 16.3 | 16.3 | 95.4 |
| | Management & Economics | 71 | 4.6 | 4.6 | 100.0 |
| | Total | 1533 | 100.0 | 100.0 | |

**University of Guelph:**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Arts | 198 | 12.9 | 29.2 | 29.2 |
| | Agriculture | 24 | 1.6 | 3.5 | 32.7 |
| | Veterinary Sciences | 13 | .8 | 1.9 | 34.7 |
| | Engineering & Physical Sciences | 37 | 2.4 | 5.5 | 40.1 |
| | Social Sciences | 85 | 5.5 | 12.5 | 52.7 |
| | Biological Sciences | 250 | 16.3 | 36.9 | 89.5 |
| | Management & Economics | 71 | 4.6 | 10.5 | 100.0 |
| | Total | 678 | 44.2 | 100.0 | |
| Missing | System | 855 | 55.8 | | |
| Total | | 1533 | 100.0 | | |



Question 93: Recoded to eliminate system missing.

Original:

**Statistics**

University of Waterloo:

| | | |
|---|---|---|
| N | Valid | 1533 |
| | Missing | 0 |

Recoded:

**Statistics**

University of Waterloo:

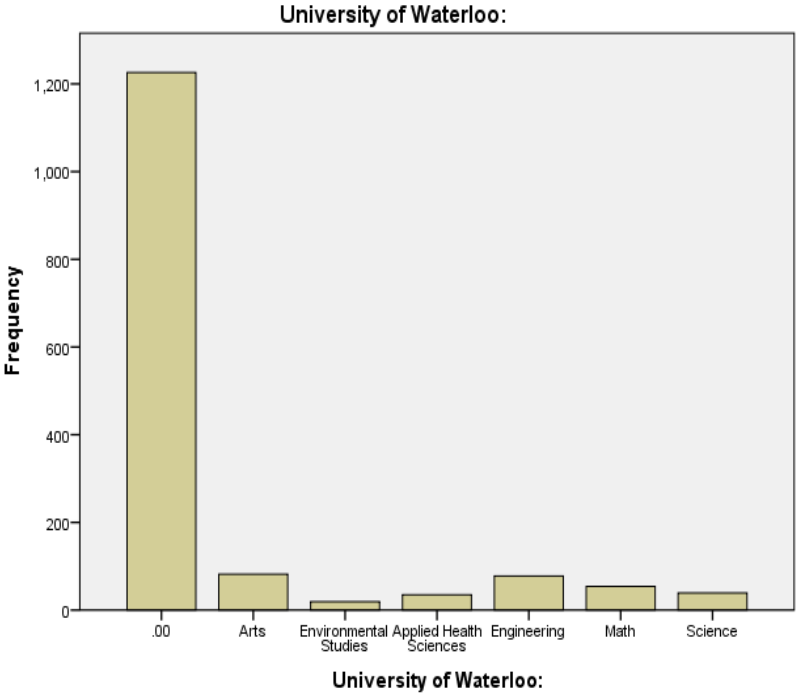
| | | |
|---|---|---|
| N | Valid | 307 |
| | Missing | 1226 |

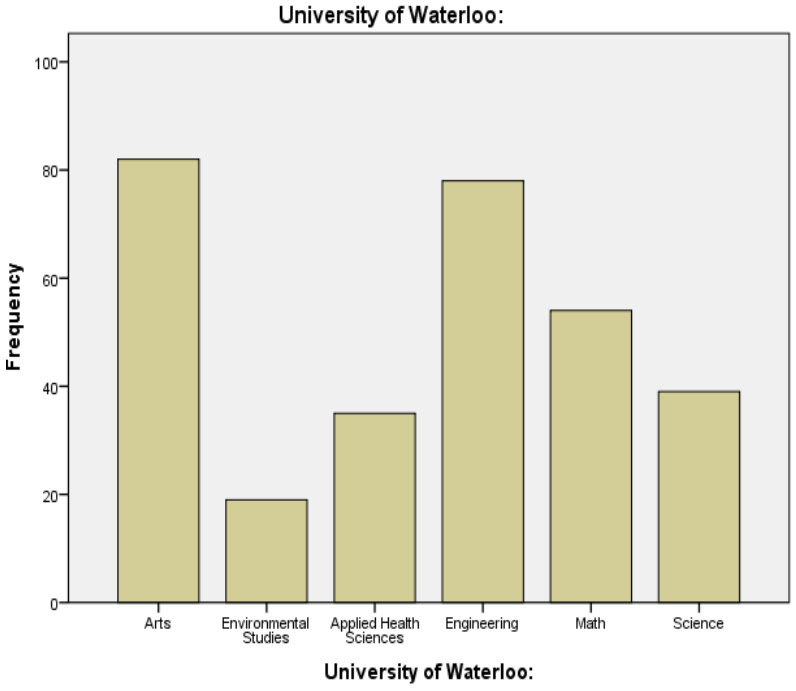
**University of Waterloo:**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | .00 | 1226 | 80.0 | 80.0 | 80.0 |
| | Arts | 82 | 5.3 | 5.3 | 85.3 |
| | Environmental Studies | 19 | 1.2 | 1.2 | 86.6 |
| | Applied Health Sciences | 35 | 2.3 | 2.3 | 88.8 |
| | Engineering | 78 | 5.1 | 5.1 | 93.9 |
| | Math | 54 | 3.5 | 3.5 | 97.5 |
| | Science | 39 | 2.5 | 2.5 | 100.0 |
| | Total | 1533 | 100.0 | 100.0 | |

**University of Waterloo:**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Arts | 82 | 5.3 | 26.7 | 26.7 |
| | Environmental Studies | 19 | 1.2 | 6.2 | 32.9 |
| | Applied Health Sciences | 35 | 2.3 | 11.4 | 44.3 |
| | Engineering | 78 | 5.1 | 25.4 | 69.7 |
| | Math | 54 | 3.5 | 17.6 | 87.3 |
| | Science | 39 | 2.5 | 12.7 | 100.0 |
| | Total | 307 | 20.0 | 100.0 | |
| Missing | System | 1226 | 80.0 | | |
| Total | | 1533 | 100.0 | | |



Question 94: Recoded to eliminate system missing.

Original:

**Statistics**

Wilfrid Laurier University:

| | | |
|---|---|---|
| N | Valid | 1533 |
| | Missing | 0 |

Recoded:

**Statistics**

Wilfrid Laurier University:

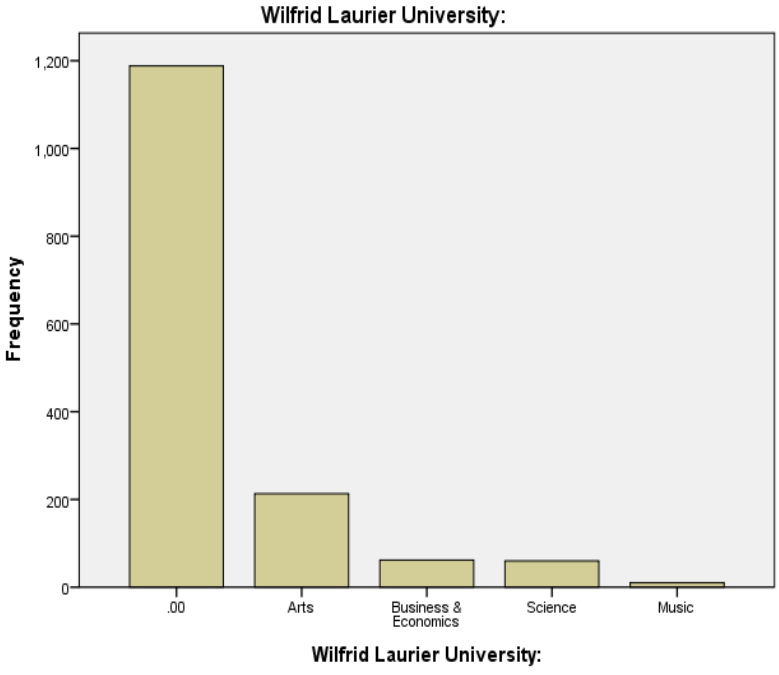
| | | |
|---|---|---|
| N | Valid | 345 |
| | Missing | 1188 |

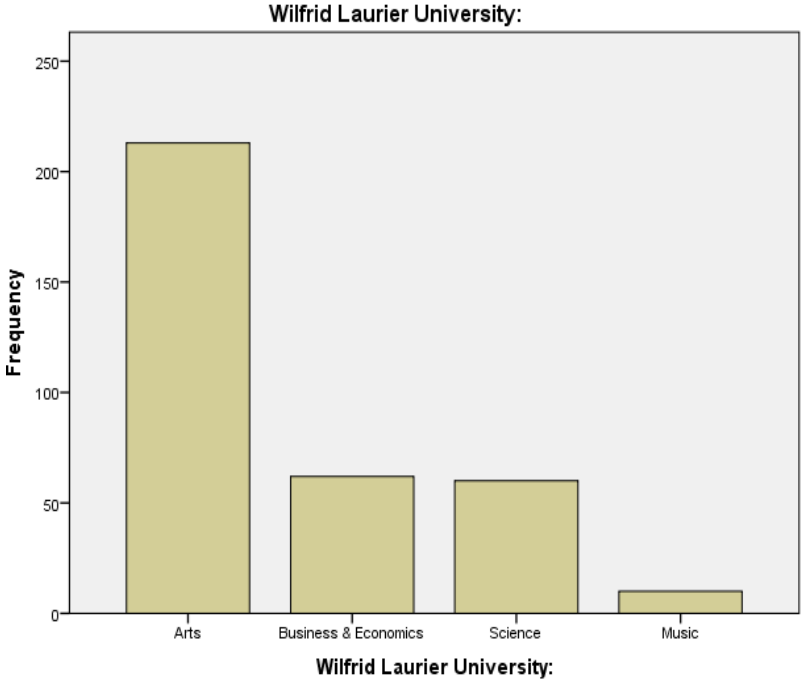
**Wilfrid Laurier University:**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | .00 | 1188 | 77.5 | 77.5 | 77.5 |
| | Arts | 213 | 13.9 | 13.9 | 91.4 |
| | Business & Economics | 62 | 4.0 | 4.0 | 95.4 |
| | Science | 60 | 3.9 | 3.9 | 99.3 |
| | Music | 10 | .7 | .7 | 100.0 |
| | Total | 1533 | 100.0 | 100.0 | |

**Wilfrid Laurier University:**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Arts | 213 | 13.9 | 61.7 | 61.7 |
| | Business & Economics | 62 | 4.0 | 18.0 | 79.7 |
| | Science | 60 | 3.9 | 17.4 | 97.1 |
| | Music | 10 | .7 | 2.9 | 100.0 |
| | Total | 345 | 22.5 | 100.0 | |
| Missing | System | 1188 | 77.5 | | |
| Total | | 1533 | 100.0 | | |



Question 97: Recoded to eliminate “No Answer” response.

Original:

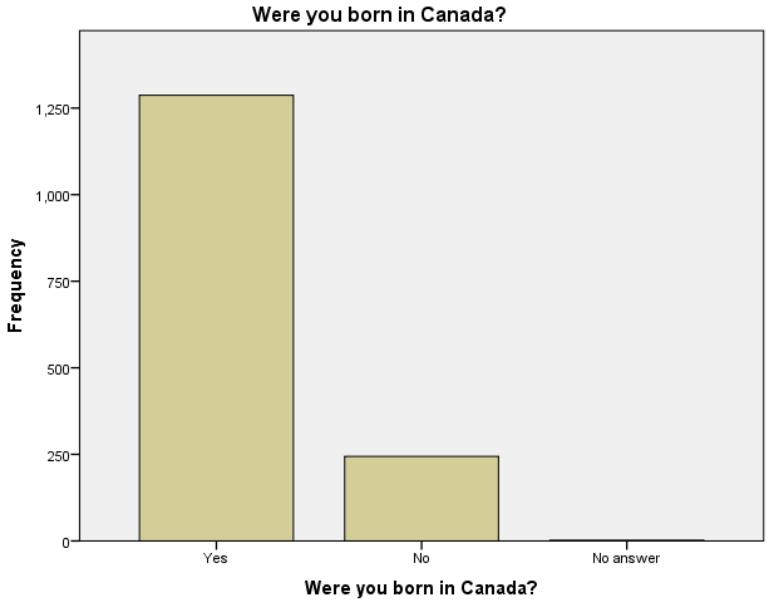
**Statistics**

Were you born in Canada?

| | | |
|---|---|---|
| N | Valid | 1533 |
| | Missing | 0 |

**Were you born in Canada?**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Yes | 1287 | 84.0 | 84.0 | 84.0 |
| | No | 244 | 15.9 | 15.9 | 99.9 |
| | No answer | 2 | .1 | .1 | 100.0 |
| | Total | 1533 | 100.0 | 100.0 | |




Recoded:

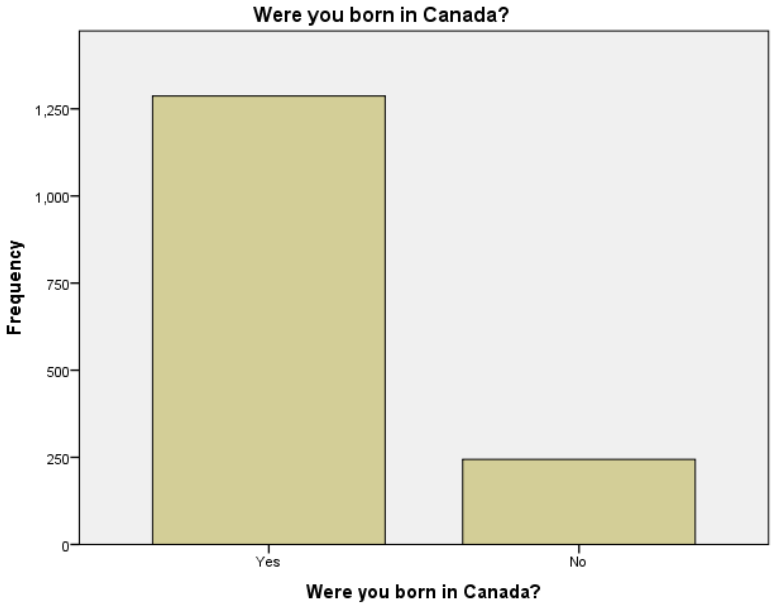
**Statistics**

Were you born in Canada?

| | | |
|---|---|---|
| N | Valid | 1531 |
| | Missing | 2 |

**Were you born in Canada?**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Yes | 1287 | 84.0 | 84.1 | 84.1 |
| | No | 244 | 15.9 | 15.9 | 100.0 |
| | Total | 1531 | 99.9 | 100.0 | |
| Missing | No answer | 2 | .1 | | |
| Total | | 1533 | 100.0 | | |



Question 99: Recoded to eliminate “Don’t Know” and “No Answer” responses.

Original:

**Statistics**

To the best of your knowledge, what was your total family income in 2005?

| | | |
|---|---|---|
| N | Valid | 1533 |
| | Missing | 0 |
| Mean | | 4.5740 |
| Median | | 5.0000 |
| Mode | | 7.00 |

Recoded:

**Statistics**

To the best of your knowledge, what was your total family income in 2005?

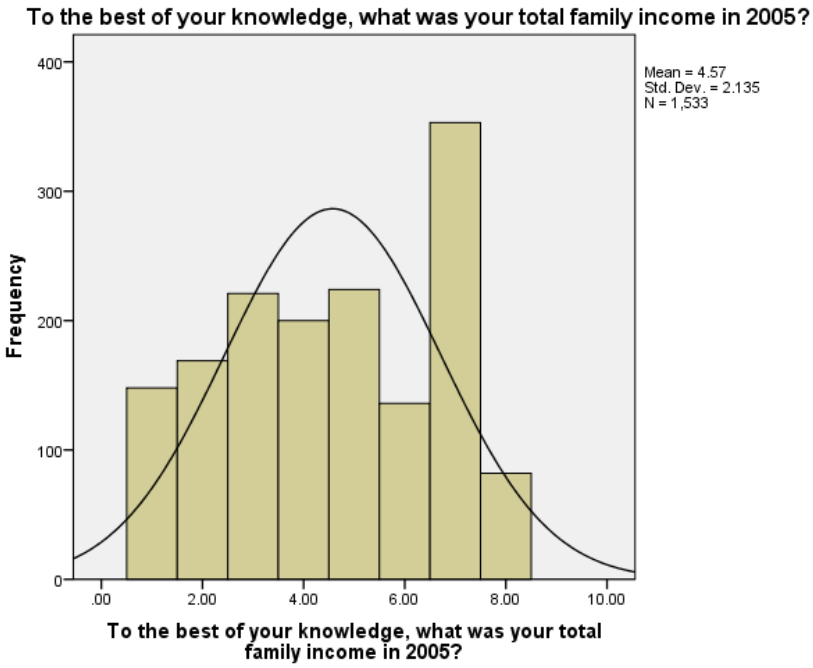
| | | |
|---|---|---|
| N | Valid | 1098 |
| | Missing | 435 |
| Mean | | 3.5383 |
| Median | | 4.0000 |
| Mode | | 5.00 |

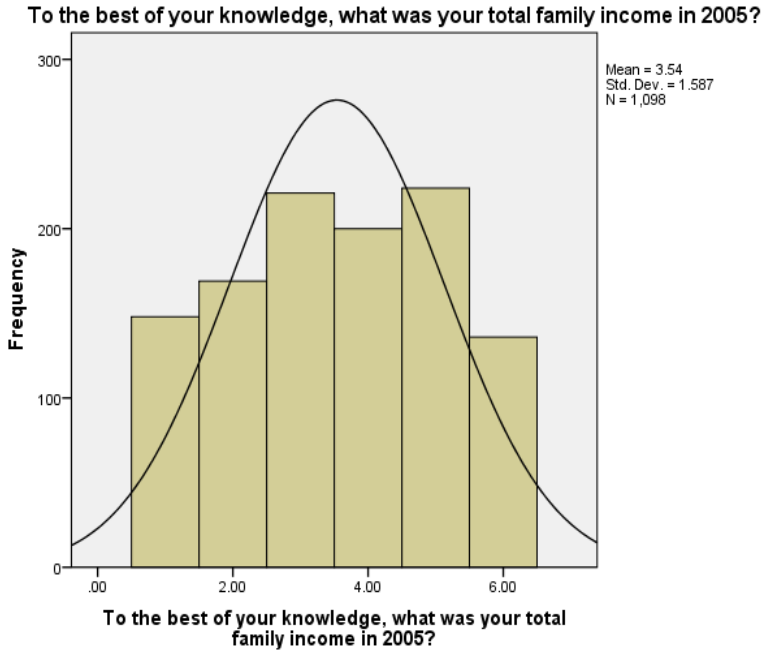
**To the best of your knowledge, what was your total family income in 2005?**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Less than $40,000 | 148 | 9.7 | 9.7 | 9.7 |
| | $40,000 to $59,999 | 169 | 11.0 | 11.0 | 20.7 |
| | $60,000 to $79,999 | 221 | 14.4 | 14.4 | 35.1 |
| | $80,000 to $99,999 | 200 | 13.0 | 13.0 | 48.1 |
| | $100,000 to $150,000 | 224 | 14.6 | 14.6 | 62.8 |
| | More than $150,000 | 136 | 8.9 | 8.9 | 71.6 |
| | Don't know | 353 | 23.0 | 23.0 | 94.7 |
| | No answer | 82 | 5.3 | 5.3 | 100.0 |
| | Total | 1533 | 100.0 | 100.0 | |

**To the best of your knowledge, what was your total family income in 2005?**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Less than $40,000 | 148 | 9.7 | 13.5 | 13.5 |
| | $40,000 to $59,999 | 169 | 11.0 | 15.4 | 28.9 |
| | $60,000 to $79,999 | 221 | 14.4 | 20.1 | 49.0 |
| | $80,000 to $99,999 | 200 | 13.0 | 18.2 | 67.2 |
| | $100,000 to $150,000 | 224 | 14.6 | 20.4 | 87.6 |
| | More than $150,000 | 136 | 8.9 | 12.4 | 100.0 |
| | Total | 1098 | 71.6 | 100.0 | |
| Missing | Don't know | 353 | 23.0 | | |
| | No answer | 82 | 5.3 | | |
| | Total | 435 | 28.4 | | |
| Total | | 1533 | 100.0 | | |



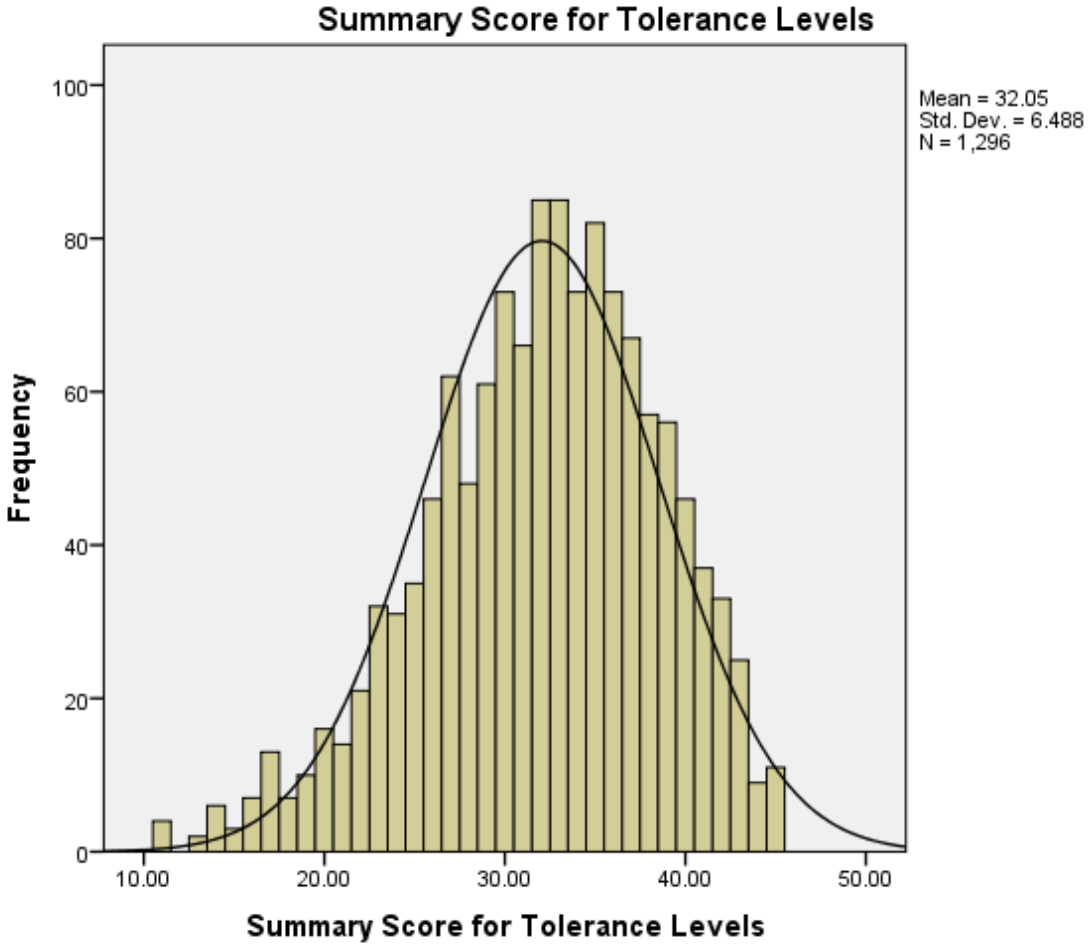



Summary Score for Level of Tolerance:

Range is from minimum 9.00 – maximum 45.00 based on 9 DV questions (Q55, Q56, Q58, Q62, Q63 – Q66, Q68) with recoded variables from 1.00 to 5.00.

**Summary Score for Tolerance Levels**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | 11.00 | 4 | .3 | .3 | .3 |
| | 13.00 | 2 | .1 | .2 | .5 |
| | 14.00 | 6 | .4 | .5 | .9 |
| | 15.00 | 3 | .2 | .2 | 1.2 |
| | 16.00 | 7 | .5 | .5 | 1.7 |
| | 17.00 | 13 | .8 | 1.0 | 2.7 |
| | 18.00 | 7 | .5 | .5 | 3.2 |
| | 19.00 | 10 | .7 | .8 | 4.0 |
| | 20.00 | 16 | 1.0 | 1.2 | 5.2 |
| | 21.00 | 14 | .9 | 1.1 | 6.3 |
| | 22.00 | 21 | 1.4 | 1.6 | 7.9 |
| | 23.00 | 32 | 2.1 | 2.5 | 10.4 |
| | 24.00 | 31 | 2.0 | 2.4 | 12.8 |
| | 25.00 | 35 | 2.3 | 2.7 | 15.5 |
| | 26.00 | 46 | 3.0 | 3.5 | 19.1 |
| | 27.00 | 62 | 4.0 | 4.8 | 23.8 |
| | 28.00 | 48 | 3.1 | 3.7 | 27.5 |
| | 29.00 | 61 | 4.0 | 4.7 | 32.3 |
| | 30.00 | 73 | 4.8 | 5.6 | 37.9 |
| | 31.00 | 66 | 4.3 | 5.1 | 43.0 |
| | 32.00 | 85 | 5.5 | 6.6 | 49.5 |
| | 33.00 | 85 | 5.5 | 6.6 | 56.1 |
| | 34.00 | 73 | 4.8 | 5.6 | 61.7 |
| | 35.00 | 82 | 5.3 | 6.3 | 68.1 |
| | 36.00 | 73 | 4.8 | 5.6 | 73.7 |
| | 37.00 | 67 | 4.4 | 5.2 | 78.9 |
| | 38.00 | 57 | 3.7 | 4.4 | 83.3 |
| | 39.00 | 56 | 3.7 | 4.3 | 87.6 |
| | 40.00 | 46 | 3.0 | 3.5 | 91.1 |
| | 41.00 | 37 | 2.4 | 2.9 | 94.0 |
| | 42.00 | 33 | 2.2 | 2.5 | 96.5 |
| | 43.00 | 25 | 1.6 | 1.9 | 98.5 |
| | 44.00 | 9 | .6 | .7 | 99.2 |
| | 45.00 | 11 | .7 | .8 | 100.0 |
| | Total | 1296 | 84.5 | 100.0 | |
| Missing | System | 237 | 15.5 | | |
| Total | | 1533 | 100.0 | | |


Summary Score for Tolerance Levels
Mean = 32.05
Std. Dev. = 6.488
N = 1,296
Frequency
100
80
60
40
20
0
10.00
20.00
30.00
40.00
50.00
Summary Score for Tolerance Levels

Introduction to Social Statistics LS280

# Levels of Tolerance in First Year Undergraduate Students Towards Cultural Diversity Based on Gender

April 6, 2015

Jia Xin (Joanna) Weng
<Redacted Partner Name>
<Redacted Partner Name>

**Abstract**

Over the past decade, cultural diversity has been increasing greatly, especially in Canada which is one of the largest multicultural countries in the world. It is important to note whether there is a difference between genders when compared to cultural diversity to see if measures need to be put in place to ensure equal tolerance levels. In 2007, a sample of first year undergraduate students from the University of Waterloo, Wilfrid Laurier University, University of Guelph and Conestoga College received a LISPOP self administered web based survey. This survey consisted of 1533 respondents, with 68.2% being female and 31.2% males. The tolerance levels towards cultural diversity between males and females was then measured using the independent variable of gender, and the dependent variable of three survey questions related to culturally diverse questions. From the recoded data and tests of significance, it was concluded that there is no true difference between males and females and their tolerance of cultural diversity.

Cultural diversity is one of the most important characteristics about Canada which makes tolerance towards cultural diversity a question to consider. With the 2007 web based survey by LISPOP and the cultural diverse questions asked, it appears that tolerance towards cultural diversity may change based on gender. Cultural diversity in first year undergraduate students was measured by taking data from a random sample. The question that will be answered throughout this literature review is: How do cultural diversity tolerance levels range for first-year post-secondary students studying in Waterloo region and Guelph based on gender? This is important to consider because if gender does have an effect on tolerance levels, then measures should be taken to increase tolerance across all sexes if needed. Answers from the survey pertaining to cultural diversity will be analyzed based on gender to determine if there is a difference between males and females.

One research study conducted by Harper pertained to this topic as it explained how primary and secondary schools have never been as diverse as they are at the present (Harper, 1997). This is key information because it is important to note that diversity levels at the present are not reflective of any other period of time, or any other specific province or country. Canada, and specifically Ontario, has become one of the most diverse places in the world which has led the education system to teach tolerance of cultural diversity by default. Currently, most students grow up in a school that does not consist primarily of one culture. In this article, the author discusses some important problems that arise because of how diverse our province is becoming. These are problems that occur due to difference and diversity, especially within the schooling system such as racially motivated violence and cultural/class conflict (Harper, 1997). The importance of this information has led to the question of whether there is a specific difference in cultural diversity tolerance levels that exists between males and females. This study would contribute to this existing knowledge by focusing more on post-secondary students to analyze the attitudes of older individuals.

Along with issues of violence and conflict arising from living in diverse societies, there is the issue of conflicting world views. Bryant's study showed that many students presently grow up having their cultural and religious beliefs challenged and this occurs at much greater rate than the generations beforehand (Bryant, 2011). This study examined participant's attitudes towards ecumenical worldview and religious and spiritual struggles. The results obtained consisted of men and women significantly differing as women were found to be much higher in both categories. This study consisted of running an analysis of variance with several variables including religion, race, and gender. These results can relate to the current study because with the data revealing that women have more religious and spiritual struggles and a higher ecumenical worldview. This leads to the assumption that women and men would also have a difference in tolerance towards cultural diversity. However, through this study's research and methodology, it was concluded that men and women from the 2007 LISPOP survey do not differ in tolerance of cultural diversity which is contradictory to Bryant's study results.

## Methods

### i. Data Source

The data for this paper was sourced from the 2007 Laurier Institute for the Study of Public Opinion and Policy (LISPOP) distributed to first year students from the University of Waterloo, Wilfrid Laurier University, University of Guelph and Conestoga College.

### ii. Sample Population

The survey used a probability sampling technique was utilized to ensure a random sample through a simple random sampling technique that allowed all first-year students from the four institutions to have an equal chance of receiving the survey. The survey was completed by 1533 students that consisted of 68.2% females and 31.2% male. All survey respondents were included in this sample population from all four institutions as gender is the independent variable being studied and applicable to all.

### iii. Procedure

The survey was self-administered and web-based. The survey used a quantitative method and is cross-sectional in design as it studies the answers from students made at one point in time. As the survey was online, closed-ended questions were used to ensure efficient data collection and analysis.

The benefits of the online survey method include it's affordability, the ease of gathering and inputting large amounts of data, and the ability to be flexible with the design of the survey as was reflected in the multiple question types contained in this survey. The disadvantages include the lack of ability to clarify a poorly worded question, the possibility of survey fraud, and that online surveys typically have a 50% response rate.

#### a. Dependent Variables for Cultural Diversity Tolerance

The variables considered as measures of tolerance towards cultural diversity were the responses to the following questions from the survey:

58. In our society, you should be responsible for your own welfare, and others should be responsible for theirs.
This question was chosen as response would indicate a level of community responsibility, regardless of the diversity of the society.

63. Recent immigrants should have as much say about the future of the country as people who are born and raised here.
This question was chosen as response level would indicate the level of tolerance towards immigrants and therefore, cultural diversity.

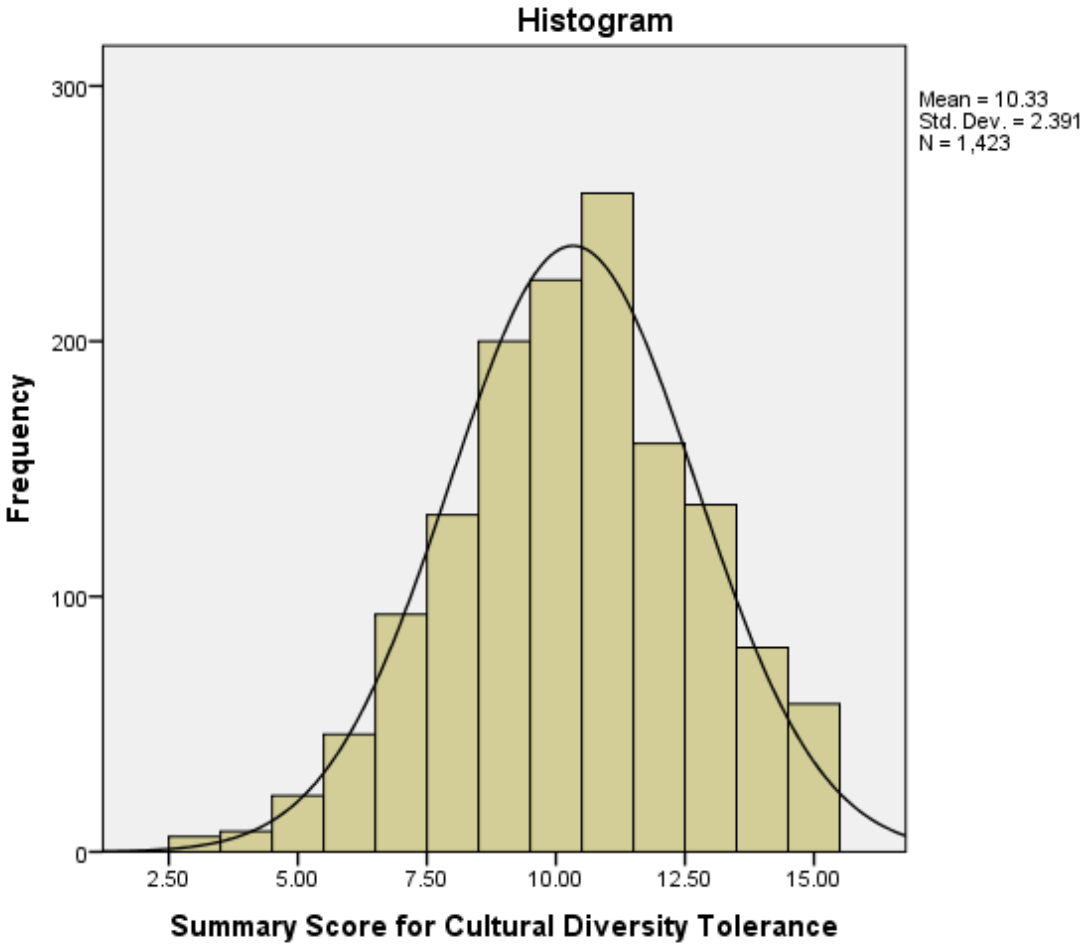
68. A society that has a variety of ethnic and cultural groups is more able to tackle new problems as they occur.
This question was chosen as it indicates the level of value the respondent places on living in a culturally diverse society.

These variables were measured on a Likert scale in the survey which were then recoded so that all variables reflected a higher numerical score as an indication of a higher level of tolerance.

A summary score was created with the recoded variables to be used as a measure of tolerance towards cultural diversity. A P-P plot and histogram was conducted to conclude that the data from the summary score did follow a normal curve. The null hypothesis is that the data is normally distributed and the alternative hypothesis is that it is not normally distributed. The Kolmogorov-Smirnov and Shapiro-Wilk tests of normality shows that the *p* value is 0.000 which is greater than 0.05, which means that the null hypothesis can be accepted and the data can be concluded as a normal distribution.

**Summary Score for Cultural Diversity Tolerance**

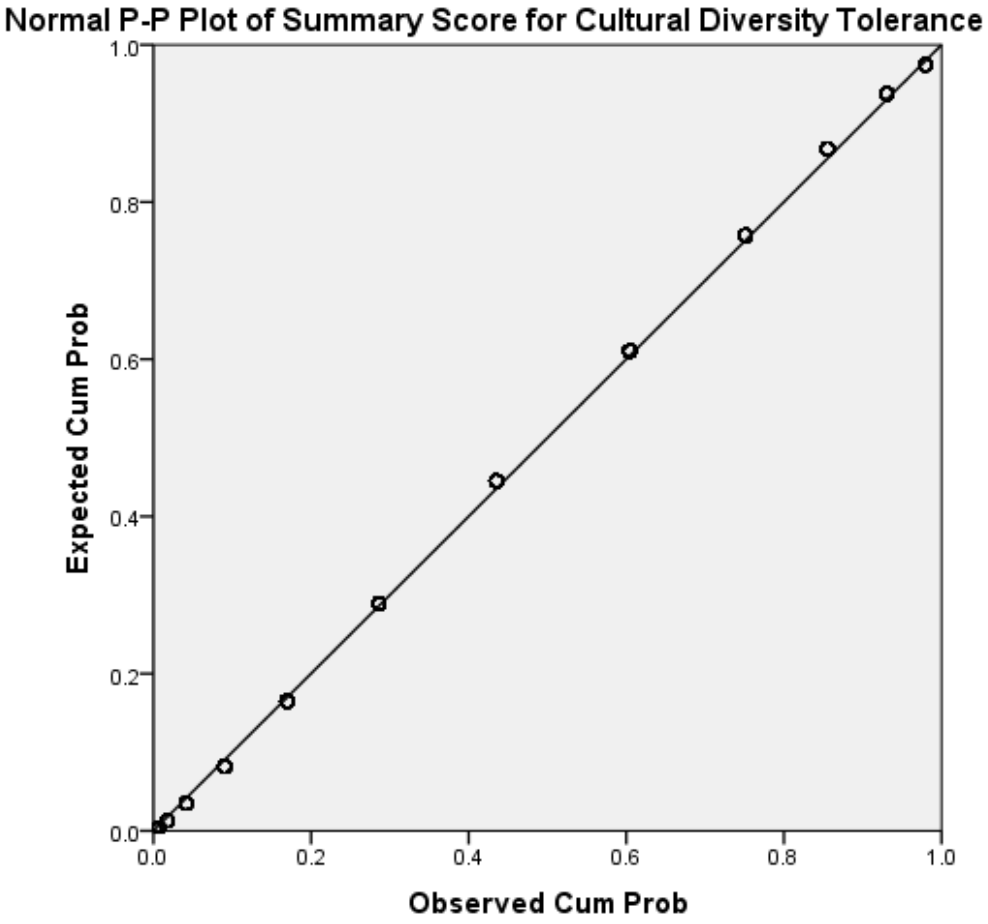
| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | 3.00 | 6 | .4 | .4 | .4 |
| | 4.00 | 8 | .5 | .6 | 1.0 |
| | 5.00 | 22 | 1.4 | 1.5 | 2.5 |
| | 6.00 | 46 | 3.0 | 3.2 | 5.8 |
| | 7.00 | 93 | 6.1 | 6.5 | 12.3 |
| | 8.00 | 132 | 8.6 | 9.3 | 21.6 |
| | 9.00 | 200 | 13.0 | 14.1 | 35.6 |
| | 10.00 | 224 | 14.6 | 15.7 | 51.4 |
| | 11.00 | 258 | 16.8 | 18.1 | 69.5 |
| | 12.00 | 160 | 10.4 | 11.2 | 80.7 |
| | 13.00 | 136 | 8.9 | 9.6 | 90.3 |
| | 14.00 | 80 | 5.2 | 5.6 | 95.9 |
| | 15.00 | 58 | 3.8 | 4.1 | 100.0 |
| | Total | 1423 | 92.8 | 100.0 | |
| Missing | System | 110 | 7.2 | | |
| Total | | 1533 | 100.0 | | |




**Tests of Normality**

| | Kolmogorov-Smirnov[a] | | | Shapiro-Wilk | | |
|---|---|---|---|---|---|---|
| | Statistic | df | Sig. | Statistic | df | Sig. |
| Summary Score for Cultural Diversity Tolerance | .097 | 1423 | .000 | .978 | 1423 | .000 |

a. Lilliefors Significance Correction




b. **Independent Variable**

The independent variable that Cultural Tolerance Levels was measured against was the gender of the participants from the following survey question:

78. What is your sex?

The gender variable was recoded to remove 'No Answer' data.

## Results

In order to assess the relationship between tolerance levels and gender, an independent-samples *t* Test was utilized. This test is used when the means of two independent groups are compared on a continuous dependent variable of interest. On SPSS, the independent-samples *t* test was employed with the summary score dependent variable and the independent variable, gender, with Group 1 defined as 1 for male and Group 2 defined as 2 for female.

Based on the summary score for cultural diversity tolerance levels based on 3 questions, the range was from 3.00 being the minimum to 15.00 being the maximum. Out of 1533 total respondents, 451 identified as male and 969 identified as female. This meant that 113 student surveys were recoded as missing data during the recoding process either due to not selecting a gender and/or not answering a cultural diversity question. There is a problem in regard to the total gender populations not being equal which could mean that females are overrepresented.

Based on the histogram for the summary score levels and tests of normality conducted, the results do follow a normal curve which does not suggest any anomalies. Therefore, there was no need to make any adjustments to the data.

The null hypothesis states that the mean tolerance scores for both gender groups are equal in the population: $H_0 : \mu_{male} = \mu_{female.}$ The alternative hypothesis states that the mean tolerance scores for the two gender groups are not equal in the population: $H_1 : \mu_{male} \neq \mu_{female}$. The independent-samples *t* test is used to test the null hypothesis to see if the population means for the gender groups are equal. The research question for this specific case is whether there is a difference in cultural diversity tolerance levels between males and females.

**Group Statistics**

| | What is your sex? | N | Mean | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|---|
| Summary Score for Cultural Diversity Tolerance | Male | 451 | 9.9579 | 2.50076 | .11776 |
| | Female | 969 | 10.5005 | 2.32002 | .07453 |

**Independent Samples Test**

| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 95% Confidence Interval of the Difference | |
| | | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | Lower | Upper |
| Summary Score for Cultural Diversity Tolerance | Equal variances assumed | 3.757 | .053 | -4.002 | 1418 | .000 | -.54264 | .13560 | -.80865 | -.27664 |
| | Equal variances not assumed | | | -3.894 | 821.457 | .000 | -.54264 | .13936 | -.81619 | -.26910 |

Based on the results, males and females have no significant cultural diversity tolerance levels (M = 9.9579, SD = 2.50076) compared to (M = 10.5005, SD = 2.32002) with $t(1418) = -4.002$, $p < .05$, $d = -0.2281$. The null hypothesis was retained.

All three assumptions of the independent-samples *t* test are satisfied for the comparison of these variables. The assumptions of the independent-samples *t* test states that all observations are independent. As the survey that was distributed to first-year undergraduate students in the Waterloo region and Guelph was conducted by LISPOP for 2007, there is no reason to believe that the independence assumption has been violated. As seen in the summary score for cultural diversity tolerance levels and tests for normality, the dependent variable is normally distributed for each of the groups in the population. Through *Levene's Test* on SPSS, the equal variance assumption was addressed through reading the appropriate results for *t* indicating that $p > 0.5$ so the it is assumed.

## Discussion

The independent-samples *t* test was conducted to determine whether gender has an effect on cultural diversity tolerance levels in first-year undergraduate students. The independent variable in this study is gender (male or female) and the dependent variable is cultural diversity tolerance, with higher scores representing greater tolerance levels.

The *Group Statistics* table states that the mean for males is 9.9579 which is lower than the female mean which is 10.5005. *Levene's Test for Equality of Variances* shows that if equal variances are assumed, than the significance, or *p*-value, is 0.053 and the *F* is 3.757. It is assumed that the variances are equal because $p > .05$ and thus, the results of the *t* test are analyzed using the *Equal Variances Assumed* row. The null hypothesis that the variances are equal is not rejected.

As the null hypothesis is accepted, the *t* value that assumes equal variances between groups is utilized which is -4.002. The total number of participants is 1420 which makes the degree of freedom 1418 and the *p*-value is 0.000 which is greater than .05. This means that the null hypothesis that the means are equal for the two gender groups is retained because there is no significant difference between the two groups.

The popular estimate of effect size for the independent-samples *t* test is given by d, where $N_1$ and $N_2$ are the sample sizes for males and females which is 451 and 969 respectively. This gives a *d* value of $d = -4.002 \sqrt{(451+969) / (451*969)} = -0.2281$. According to Cohen's estimates of .2, .5, and .8 corresponding to small, medium and large effect sizes, a *d* value of -0.2281 implies that the effect size is considered very small in practice.

The independent-samples *t* test showed that based on survey responses, gender does not have an effect on cultural diversity tolerance levels and both sexes generally follow the same normality curve with no significant difference.

The implications of the research indicate that there was no appreciable difference between cultural diversity tolerance levels between males and females in first year post-secondary students from Guelph and the Waterloo regions. The survey data does show that 44.4% of students fall between a 60% and 73% tolerance level which corresponds with receiving a score of 9.00 - 11.00 out of a total of 15.00, according to the created summary score.

Therefore, a recommendation would be to offer cultural diversity tolerance programs or courses that are available to both genders equally during the students' enrolment in post-secondary education. This will help to increase cultural diversity awareness which can correspond to raising the level of tolerance across all genders for first-year students in the area. A further recommendation is for researchers to conduct another survey for graduating students to see if a post-secondary experience has an effect on their tolerance levels. This may or may not suggest that there are gender differences on cultural diversity tolerance levels after a undergraduate education is obtained.

The explanations for cultural diversity and the problems listed by Harper relate well to the topic of tolerance. These explanations and problems give reason as to why there is no significant difference as these issues affect almost everybody, and are not limited to one gender specifically. Harper's review of the differences and diversity within school systems may

similarly represent why there is no significant difference between genders in participants from LISPOP's 2007 survey as it is very likely that the problems explained in Harper's article are still existent. The results from this study correlates well with Harper's study in that both do not indicate that gender has an effect on tolerance levels related to cultural diversity.

The findings from Bryant's study differed from the results of this research study as there was no significant difference in cultural diversity tolerance levels found between genders from the data given by first-year undergraduate students in 2007. Bryant's study did suggest that gender did have an effect on tolerance levels. This could be due to the difference in the sampling strata as the LISPOP survey was only distributed to first-year students within the geographical region in 2007. This suggests that tolerance levels may be more influenced by factors such as age, location, and the year.

The limitations of this study are that the data it is based on was drawn from a very specific population base of first year post-secondary students in a specific geographic region meaning that the ability to generalize the findings to a greater population is very low. The type of survey that the data was sourced from provides further limitations, as online surveys typically only have a 50% response rate. The t-test that was run also only examined the means of females and males so while it can be said that there is no appreciable difference between the tolerance levels of both genders, there cannot be anything said about individual scores of male and female participants.

In order to extend these findings into new areas, it is important that the limitations of this study are not repeated. For an accurate representation of tolerance levels towards cultural diversity in first year undergraduate students, it would be more significant to sample to more than four post secondary institutes. Also, it is imperative that the study be broadened to more than one type of lifestyle, for example, being distributed to students in rural and suburban areas, to guarantee a more accurate representation. Additionally, the survey can include a wider range of questions to explore all areas of cultural diversity. Overall, for this study to be generalized to a larger population, it is important that many other factors are taken into consideration.

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