
Figure S1. The results of application of the statistical tests discussed in the text to the synthetic data set with 4 randomly distributed populations. Black lines represent mean values for each sub-sample size. Error bars represent 1σ uncertainty based on comparison of the four sub-samples. Orange and purple crosses represent the values from comparison of least similar most similar pairs, respectively, for each sub-sample size. A) K-S test p- and D-values. B) Kuiper test p- and V-values. C) Cross-correlation, Similarity and Likeness coefficients from comparison of sub-samples’ PDPs. D) Cross-correlation, Similarity and Likeness coefficients from comparison of sub-samples’ KDEs. E) Cross-correlation, Similarity and Likeness coefficients from comparison of sub-samples’ LA-KDEs.

Figure S2. The results of application of the statistical tests discussed in the text to the synthetic data set with 11 randomly distributed populations. Black lines represent mean values for each sub-sample size. Error bars represent 1σ uncertainty based on comparison of the four sub-samples. Orange and purple crosses represent the values from comparison of least similar most similar pairs, respectively, for each sub-sample size. A) K-S test p- and D-values. B) Kuiper test p- and V-values. C) Cross-correlation, Similarity and Likeness coefficients from comparison of sub-samples’ PDPs. D) Cross-correlation, Similarity and Likeness coefficients from comparison of sub-samples’ KDEs. E) Cross-correlation, Similarity and Likeness coefficients from comparison of sub-samples’ LA-KDEs.

Figure S3. The results of application of the statistical tests discussed in the text to the synthetic data set with 19 randomly distributed populations. Black lines represent mean values for each sub-sample size. Error bars represent 1σ uncertainty based on comparison of the four sub-samples. Orange and purple crosses represent the values from comparison of least similar most similar pairs, respectively, for each sub-sample size. A) K-S test p- and D-values. B) Kuiper test p- and V-values. C) Cross-correlation, Similarity and Likeness coefficients from comparison of sub-samples’ PDPs. D) Cross-correlation, Similarity and Likeness coefficients from comparison of sub-samples’ KDEs. E) Cross-correlation, Similarity and Likeness coefficients from comparison of sub-samples’ LA-KDEs.

Figure S4. The results of application of the statistical tests discussed in the text to the first synthetic data set with 22 randomly distributed populations. Black lines represent mean values for each sub-sample size. Error bars represent 1σ uncertainty based on comparison of the four sub-samples. Orange and purple crosses represent the values from comparison of least similar most similar pairs, respectively, for each sub-sample size. A) K-S test p- and D-values. B) Kuiper test p- and V-values. C) Cross-correlation, Similarity and Likeness coefficients from comparison of sub-samples’ PDPs. D) Cross-correlation, Similarity and Likeness coefficients from comparison of sub-samples’ KDEs. E) Cross-correlation, Similarity and Likeness coefficients from comparison of sub-samples’ LA-KDEs.

Figure S5. The results of application of the statistical tests discussed in the text to the second synthetic data set with 22 randomly distributed populations. Black lines represent mean values for each sub-sample size. Error bars represent 1σ uncertainty based on comparison of the four
sub-samples. Orange and purple crosses represent the values from comparison of least similar most similar pairs, respectively, for each sub-sample size. A) K-S test p- and D-values. B) Kuiper test p- and V-values. C) Cross-correlation, Similarity and Likeness coefficients from comparison of sub-samples’ PDPs. D) Cross-correlation, Similarity and Likeness coefficients from comparison of sub-samples’ KDEs. E) Cross-correlation, Similarity and Likeness coefficients from comparison of sub-samples’ LA-KDEs.

Figure S6. The results of application of the statistical tests discussed in the text to the third synthetic data set with 22 randomly distributed populations. Black lines represent mean values for each sub-sample size. Error bars represent 1σ uncertainty based on comparison of the four sub-samples. Orange and purple crosses represent the values from comparison of least similar most similar pairs, respectively, for each sub-sample size. A) K-S test p- and D-values. B) Kuiper test p- and V-values. C) Cross-correlation, Similarity and Likeness coefficients from comparison of sub-samples’ PDPs. D) Cross-correlation, Similarity and Likeness coefficients from comparison of sub-samples’ KDEs. E) Cross-correlation, Similarity and Likeness coefficients from comparison of sub-samples’ LA-KDEs.

Figure S7. The results of application of the statistical tests discussed in the text to the fourth synthetic data set with 22 randomly distributed populations. Black lines represent mean values for each sub-sample size. Error bars represent 1σ uncertainty based on comparison of the four sub-samples. Orange and purple crosses represent the values from comparison of least similar most similar pairs, respectively, for each sub-sample size. A) K-S test p- and D-values. B) Kuiper test p- and V-values. C) Cross-correlation, Similarity and Likeness coefficients from comparison of sub-samples’ PDPs. D) Cross-correlation, Similarity and Likeness coefficients from comparison of sub-samples’ KDEs. E) Cross-correlation, Similarity and Likeness coefficients from comparison of sub-samples’ LA-KDEs.

Figure S8. The results of application of the statistical tests discussed in the text to the synthetic data set with 22 bimodally distributed populations. Black lines represent mean values for each sub-sample size. Error bars represent 1σ uncertainty based on comparison of the four sub-samples. Orange and purple crosses represent the values from comparison of least similar most similar pairs, respectively, for each sub-sample size. A) K-S test p- and D-values. B) Kuiper test p- and V-values. C) Cross-correlation, Similarity and Likeness coefficients from comparison of sub-samples’ PDPs. D) Cross-correlation, Similarity and Likeness coefficients from comparison of sub-samples’ KDEs. E) Cross-correlation, Similarity and Likeness coefficients from comparison of sub-samples’ LA-KDEs.

Figure S9. The results of application of the statistical tests discussed in the text to the synthetic data set with 22 centrally distributed populations. Black lines represent mean values for each sub-sample size. Error bars represent 1σ uncertainty based on comparison of the four sub-samples. Orange and purple crosses represent the values from comparison of least similar most similar pairs, respectively, for each sub-sample size. A) K-S test p- and D-values. B) Kuiper test p- and V-values. C) Cross-correlation, Similarity and Likeness coefficients from comparison of sub-samples’ PDPs. D) Cross-correlation, Similarity and Likeness coefficients from comparison of sub-samples’ KDEs. E) Cross-correlation, Similarity and Likeness coefficients from comparison of sub-samples’ LA-KDEs.
Figure S10. The results of application of the statistical tests discussed in the text to the synthetic data set with 25 randomly distributed populations. Black lines represent mean values for each sub-sample size. Error bars represent 1σ uncertainty based on comparison of the four sub-samples. Orange and purple crosses represent the values from comparison of least similar most similar pairs, respectively, for each sub-sample size. A) K-S test p- and D-values. B) Kuiper test p- and V-values. C) Cross-correlation, Similarity and Likeness coefficients from comparison of sub-samples’ PDPs. D) Cross-correlation, Similarity and Likeness coefficients from comparison of sub-samples’ KDEs. E) Cross-correlation, Similarity and Likeness coefficients from comparison of sub-samples’ LA-KDEs.

Figure S11. The results of application of the statistical tests discussed in the text to the synthetic data set with 33 randomly distributed populations. Black lines represent mean values for each sub-sample size. Error bars represent 1σ uncertainty based on comparison of the four sub-samples. Orange and purple crosses represent the values from comparison of least similar most similar pairs, respectively, for each sub-sample size. A) K-S test p- and D-values. B) Kuiper test p- and V-values. C) Cross-correlation, Similarity and Likeness coefficients from comparison of sub-samples’ PDPs. D) Cross-correlation, Similarity and Likeness coefficients from comparison of sub-samples’ KDEs. E) Cross-correlation, Similarity and Likeness coefficients from comparison of sub-samples’ LA-KDEs.

Figure S12. The results of application of the statistical tests discussed in the text to the synthetic data set with 44 randomly distributed populations. Black lines represent mean values for each sub-sample size. Error bars represent 1σ uncertainty based on comparison of the four sub-samples. Orange and purple crosses represent the values from comparison of least similar most similar pairs, respectively, for each sub-sample size. A) K-S test p- and D-values. B) Kuiper test p- and V-values. C) Cross-correlation, Similarity and Likeness coefficients from comparison of sub-samples’ PDPs. D) Cross-correlation, Similarity and Likeness coefficients from comparison of sub-samples’ KDEs. E) Cross-correlation, Similarity and Likeness coefficients from comparison of sub-samples’ LA-KDEs.

Figure S13. The results of application of the statistical tests discussed in the text to the synthetic data set with 49 randomly distributed populations. Black lines represent mean values for each sub-sample size. Error bars represent 1σ uncertainty based on comparison of the four sub-samples. Orange and purple crosses represent the values from comparison of least similar most similar pairs, respectively, for each sub-sample size. A) K-S test p- and D-values. B) Kuiper test p- and V-values. C) Cross-correlation, Similarity and Likeness coefficients from comparison of sub-samples’ PDPs. D) Cross-correlation, Similarity and Likeness coefficients from comparison of sub-samples’ KDEs. E) Cross-correlation, Similarity and Likeness coefficients from comparison of sub-samples’ LA-KDEs.

Figure S14. The results of application of the statistical tests discussed in the text to the synthetic data set with 75 randomly distributed populations. Black lines represent mean values for each sub-sample size. Error bars represent 1σ uncertainty based on comparison of the four sub-samples. Orange and purple crosses represent the values from comparison of least similar most similar pairs, respectively, for each sub-sample size. A) K-S test p- and D-values. B) Kuiper test

Figure S15. The results of application of the statistical tests discussed in the text to the second synthetic data set with 100 randomly distributed populations. Black lines represent mean values for each sub-sample size. Error bars represent 1σ uncertainty based on comparison of the four sub-samples. Orange and purple crosses represent the values from comparison of least similar most similar pairs, respectively, for each sub-sample size. A) K-S test p- and D-values. B) Kuiper test p- and V-values. C) Cross-correlation, Similarity and Likeness coefficients from comparison of sub-samples’ PDPs. D) Cross-correlation, Similarity and Likeness coefficients from comparison of sub-samples’ KDEs. E) Cross-correlation, Similarity and Likeness coefficients from comparison of sub-samples’ LA-KDEs.

Figure S16. The results of application of the statistical tests discussed in the text to the synthetic data set with 150 randomly distributed populations. Black lines represent mean values for each sub-sample size. Error bars represent 1σ uncertainty based on comparison of the four sub-samples. Orange and purple crosses represent the values from comparison of least similar most similar pairs, respectively, for each sub-sample size. A) K-S test p- and D-values. B) Kuiper test p- and V-values. C) Cross-correlation, Similarity and Likeness coefficients from comparison of sub-samples’ PDPs. D) Cross-correlation, Similarity and Likeness coefficients from comparison of sub-samples’ KDEs. E) Cross-correlation, Similarity and Likeness coefficients from comparison of sub-samples’ LA-KDEs.
22 Age Modes #3

A: K-S p-value

B: Kuiper p-value

C: Cross-correlation

D: Cross-correlation

E: Cross-correlation

K-S D-value

Kuiper V-value

Similarity

Likeness

Coefficient

Coefficient

Coefficient

Coefficient

Coefficient

Coefficient

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Sub-sample size (n)

Sub-sample size (n)

Sub-sample size (n)
22 Age Modes Bimodally Distributed

A: K-S p-value

B: Kuiper p-value

C: Cross-correlation

D: Cross-correlation

E: Cross-correlation

K-S D-value

Kuiper V-value

Average (Mean)

Least Similar

Most Similar

A: K-S p-value

B: Kuiper p-value

C: Cross-correlation

D: Cross-correlation

E: Cross-correlation

K-S D-value

Kuiper V-value

Average (Mean)

Least Similar

Most Similar

22 Age Modes Bimodally Distributed

A: K-S p-value
22 Age Modes Centrally Distributed

A: K-S p-value  B: Kuiper p-value

C: Cross-correlation  Similarity  Likeness

D: Cross-correlation  Similarity  Likeness

E: Cross-correlation  Similarity  Likeness

K-S D-value  Kuiper V-value

Kuiper V-value

K-S D-value

Average (Mean)
Least Similar
Most Similar

Coefficient
Coefficient
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Sub-sample size (n)
Sub-sample size (n)
Sub-sample size (n)
25 Age Modes

A: K-S p-value

B: Kuiper p-value

C: Cross-correlation

D: Cross-correlation

E: Cross-correlation

K-S D-value

Kuiper V-value

Similarity

Likeness

Average (Mean)

Least Similar

Most Similar

Sub-sample size (n)

Coefficient

Coefficient

Coefficient

Coefficient

Sub-sample size (n)

Coefficient

Coefficient

Coefficient

Sub-sample size (n)

Coefficient
33 Age Modes

A: K-S p-value
B: Kuiper p-value
C: Cross-correlation
D: Cross-correlation
E: Cross-correlation

K-S D-value
Kuiper V-value

Coefficient
Coefficient
Coefficient
Coefficient
Coefficient
Coefficient

0 0.2 0.4 0.6 0.8 1
0 0.2 0.4 0.6 0.8 1
0 0.2 0.4
0 0.2 0.4 0.6 0.8 1
0 0.2 0.4 0.6 0.8 1
0 0.2 0.4

Sub-sample size (n)
Sub-sample size (n)
Sub-sample size (n)

Average (Mean)
Least Similar
Most Similar

A: K-S p-value
B: Kuiper p-value
C: Cross-correlation
D: Cross-correlation
E: Cross-correlation

Kuiper V-value
K-S D-value

Coefficient
Coefficient
Coefficient
Coefficient
Coefficient
Coefficient

0 0.2 0.4 0.6 0.8 1
0 0.2 0.4 0.6 0.8 1
0 0.2 0.4 0.6 0.8 1
0 0.2 0.4 0.6 0.8 1
0 0.2 0.4 0.6 0.8 1

Sub-sample size (n)
44 Age Modes

A: K-S p-value

B: Kuiper p-value

C: Cross-correlation

D: Cross-correlation

E: Cross-correlation

K-S D-value

Kuiper V-value

Similarity

Likeness

Coefficient

Sub-sample size (n)

Coefficient

Sub-sample size (n)

Coefficient

Sub-sample size (n)

Coefficient

Sub-sample size (n)

Coefficient

Sub-sample size (n)

Average (Mean)

Least Similar

Most Similar

K-S p-value

Kuiper p-value

Cross-correlation

Likeness

K-S D-value

Kuiper V-value

Similarity

Coefficient

Sub-sample size (n)
75 Age Modes

A: K-S p-value
B: Kuiper p-value

C: Cross-correlation
D: Cross-correlation
E: Cross-correlation

K-S D-value
Kuiper V-value

Coefficient

Average (Mean)
Least Similar
Most Similar

75 Age Modes
100 Age Modes #2

A: K-S p-value

B: Kuiper p-value

C: Cross-correlation

D: Cross-correlation

E: Cross-correlation

K-S D-value

Kuiper V-value

Similarity

Likeness

Average (Mean)

Least Similar

Most Similar

K-S D-value

Kuiper V-value

Coefficient

Coefficient

Coefficient

Coefficient

Coefficient

Coefficient

Coefficient

Coefficient

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Coefficient

Sub-sample size (n)

Sub-sample size (n)

Sub-sample size (n)