

Well-matchedness in Euler and Linear Diagrams: Supplementary Material

Gem Stapleton¹[0000-0002-6567-6752], Peter Rodgers¹[0000-0002-4100-3596],
Anestis Touloumis²[0000-0002-5965-1639], and Andrew
Blake²[0000-0001-5856-4544]

¹ University of Kent, Canterbury, UK {[g.stapleton](mailto:g.stapleton@kent.ac.uk),[p.j.rodgers](mailto:p.j.rodgers@kent.ac.uk)}@kent.ac.uk

² Centre for Secure, Intelligent and Usable Systems

University of Brighton, Brighton. UK

{[a.touloumis](mailto:a.touloumis@brighton.ac.uk),[a.l.blake](mailto:a.l.blake@brighton.ac.uk)}@brighton.ac.uk

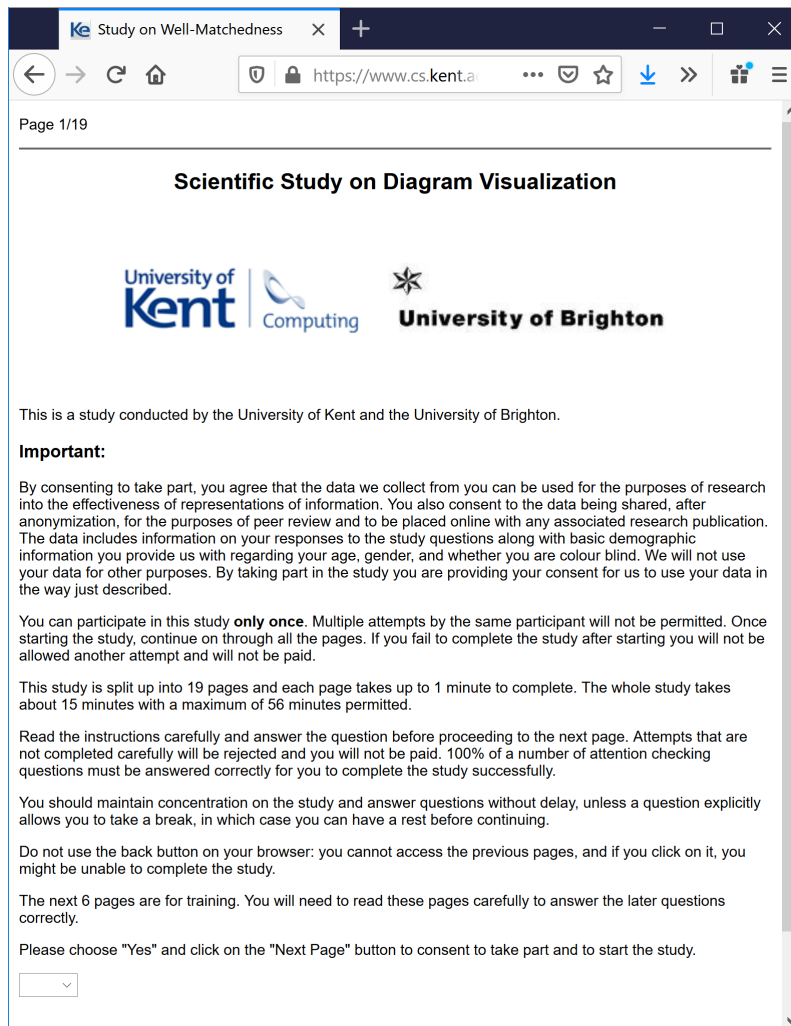
1 Introduction

This document contains screenshots of all materials used in the two studies into well-matchedness arising in Euler and linear diagrams. The study can be taken online at <https://www.cs.kent.ac.uk/people/staff/pjr/wellmatched/>. There it is possible to select which diagrammatic notation to use (Euler or Linear). When collecting data, participants were randomly assigned to one of the two diagrammatic notations.

This document is structured as follows. Section 2 shows the informed consent page and the demographics page, which were the same for each study. Section 3 covers the training material shown to participants. It then shows the eight performance phase questions, including the attention checker included in that part of the study. Lastly, it shows the two preference questions. Section 4 is similarly structured. Note that the only differences between the study materials arises from the difference in diagrammatic notation. All other study design details are identical.

2 Informed Consent and Demographics

Both studies included the same consent page (at the beginning of the study) and demographics page (at the end of the study).



Study on Well-Matchedness

https://www.cs.kent.a

Page 1/19

Scientific Study on Diagram Visualization

University of Kent Computing University of Brighton

This is a study conducted by the University of Kent and the University of Brighton.

Important:

By consenting to take part, you agree that the data we collect from you can be used for the purposes of research into the effectiveness of representations of information. You also consent to the data being shared, after anonymization, for the purposes of peer review and to be placed online with any associated research publication. The data includes information on your responses to the study questions along with basic demographic information you provide us with regarding your age, gender, and whether you are colour blind. We will not use your data for other purposes. By taking part in the study you are providing your consent for us to use your data in the way just described.

You can participate in this study **only once**. Multiple attempts by the same participant will not be permitted. Once starting the study, continue on through all the pages. If you fail to complete the study after starting you will not be allowed another attempt and will not be paid.

This study is split up into 19 pages and each page takes up to 1 minute to complete. The whole study takes about 15 minutes with a maximum of 56 minutes permitted.

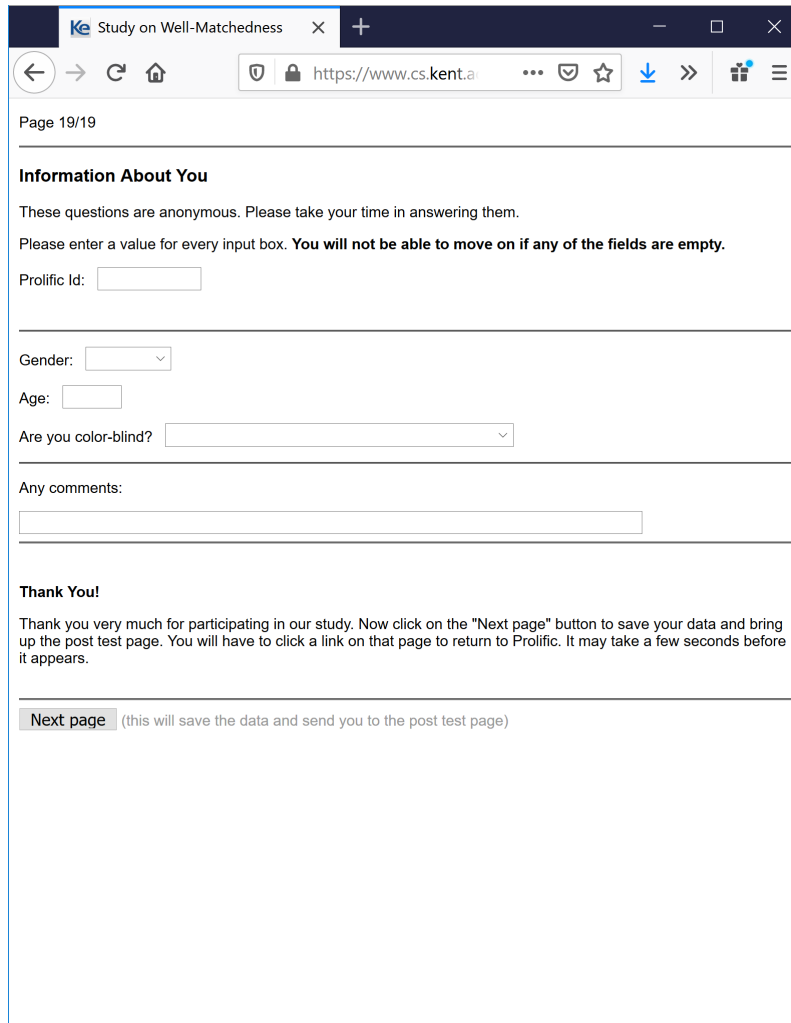
Read the instructions carefully and answer the question before proceeding to the next page. Attempts that are not completed carefully will be rejected and you will not be paid. 100% of a number of attention checking questions must be answered correctly for you to complete the study successfully.

You should maintain concentration on the study and answer questions without delay, unless a question explicitly allows you to take a break, in which case you can have a rest before continuing.

Do not use the back button on your browser: you cannot access the previous pages, and if you click on it, you might be unable to complete the study.

The next 6 pages are for training. You will need to read these pages carefully to answer the later questions correctly.

Please choose "Yes" and click on the "Next Page" button to consent to take part and to start the study.



Study on Well-Matchedness

Page 19/19

Information About You

These questions are anonymous. Please take your time in answering them.

Please enter a value for every input box. **You will not be able to move on if any of the fields are empty.**

Prolific Id:

Gender:

Age:

Are you color-blind?

Any comments:

Thank You!

Thank you very much for participating in our study. Now click on the "Next page" button to save your data and bring up the post test page. You will have to click a link on that page to return to Prolific. It may take a few seconds before it appears.

[Next page](#) (this will save the data and send you to the post test page)

3 Well-Matchedness in Euler Diagrams

3.1 Training Material

Each participant was presented with six training diagrams, alongside practise tasks and explanations. The training pages were presented in the same order for each diagram.

Training Page 1, Style: Subset: Spatial

Page 2/19

Training Question 1

Please study the information in the box.

Albania

Denmark

The diagram shows two circles. The circle labelled Albania represents all of the people who visited Albania. The circle labelled Denmark represents all of the people who visited Denmark.

The circle for Denmark is inside the circle for Albania which means that everyone who visited Denmark also visited Albania.

Later, you will be shown diagrams that use circles in this way and asked to identify a statement that is true. You can practise this task here.

Select one of the following options that is definitely true:

- Everyone who visited Denmark also visited Albania
- No one visited both Albania and Denmark
- Everyone who visited Albania also visited Denmark
- None of the above

[Reveal answer](#)

Training Page 1 Answer

Study on Well-Matchedness

https://www.cs.kent.ac.uk

Page 2/19

Training Question 1 Answer

Please study the information in the box.

Albania

Denmark

The correct answer is 'Everyone who visited Denmark also visited Albania'.

The circle for Denmark is inside the circle for Albania, so everyone who visited Denmark also visited Albania.

[Next page](#) (you cannot return to this page afterwards)

Training Page 2, Style: Subset: Shading

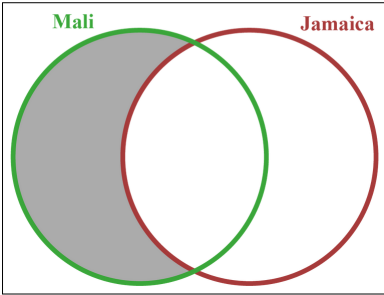
Study on Well-Matchedness

https://www.cs.kent.ac.uk

Page 3/19

Training Question 2

Please study the information in the box.



The diagram shows two circles. The circle labelled Jamaica represents all of the people who visited Jamaica. The circle labelled Mali represents all of the people who visited Mali.

The region inside Mali but outside Jamaica is shaded which means that no one visited Mali but not Jamaica.

The non-shaded region inside Mali is completely inside Jamaica which means that everyone who visited Mali also visited Jamaica.

Later, you will be shown diagrams that use shading in this way and asked to identify a statement that is true. You can practise this task here.

Select one of the following options that is definitely true:

- Everyone who visited Jamaica also visited Mali
- Everyone who visited Mali also visited Jamaica
- No one visited both Jamaica and Mali
- None of the above

Reveal answer

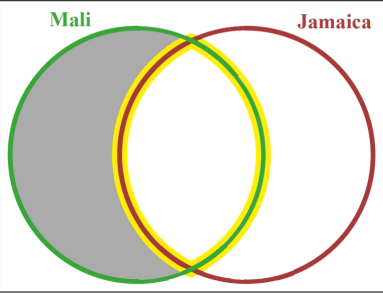
Training Page 2 Answer

Study on Well-Matchedness

Page 3/19

Training Question 2 Answer

Please study the information in the box.



The correct answer is 'Everyone who visited Mali also visited Jamaica'.

As shown highlighted in the diagram, the non-shaded region inside Mali is completely inside Jamaica which means that everyone who visited Mali also visited Jamaica.

[Next page](#) (you cannot return to this page afterwards)

Training Page 3, Style: Disjoint: Spatial

Study on Well-Matchedness

https://www.cs.kent.ac.uk

Page 4/19

Training Question 3

Please study the information in the box.

The diagram shows two circles. The circle on the left is green and labeled 'France'. The circle on the right is red and labeled 'Botswana'. The two circles are disjoint, meaning they do not overlap.

The diagram shows two circles. The circle labelled Botswana represents all of the people who visited Botswana. The circle labelled France represents all of the people who visited France.

The circles for Botswana and France do not overlap which means that no one visited both Botswana and France.

Later, you will be shown diagrams that use circles in this way and asked to identify a statement that is true. You can practise this task here.

Select one of the following options that is definitely true:

- Everyone who visited Botswana also visited France
- No one visited both Botswana and France
- Everyone who visited France also visited Botswana
- None of the above

Reveal answer

Training Page 3 Answer

Study on Well-Matchedness

https://www.cs.kent.ac.uk

Page 4/19

Training Question 3 Answer

Please study the information in the box.

The diagram consists of two circles side-by-side. The left circle is green and has the word 'France' written above it in green. The right circle is red and has the word 'Botswana' written above it in red. The two circles do not overlap.

The correct answer is 'No one visited both Botswana and France'.

The circles for Botswana and France do not overlap which means that no one visited both Botswana and France.

[Next page](#) (you cannot return to this page afterwards)

Training Page 4, Style: Disjoint: Shading

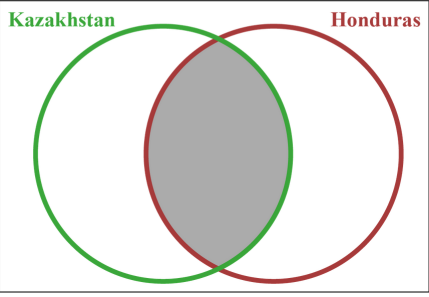
Study on Well-Matchedness

https://www.cs.kent.a

Page 5/19

Training Question 4

Please study the information in the box.



The diagram shows two circles. The circle labelled Honduras represents all of the people who visited Honduras. The circle labelled Kazakhstan represents all of the people who visited Kazakhstan.

The region inside both Honduras and Kazakhstan is completely shaded which means that no one visited both Honduras and Kazakhstan.

Later, you will be shown diagrams that use shading in this way and asked to identify a statement that is true. You can practise this task here.

Select one of the following options that is definitely true:

- Everyone who visited Honduras also visited Kazakhstan
- Everyone who visited Kazakhstan also visited Honduras
- No one visited both Honduras and Kazakhstan
- None of the above

Reveal answer

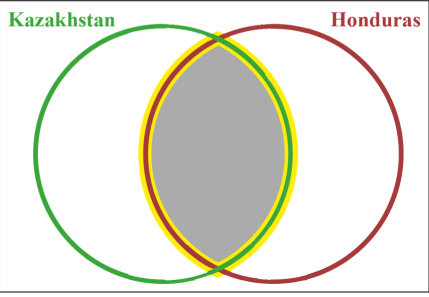
Training Page 4 Answer

Study on Well-Matchedness

Page 5/19

Training Question 4 Answer

Please study the information in the box.



The correct answer is 'No one visited both Honduras and Kazakhstan'.

As shown highlighted in the diagram, the region inside both Honduras and Kazakhstan is completely shaded which means that no one visited both Honduras and Kazakhstan.

[Next page](#) (you cannot return to this page afterwards)

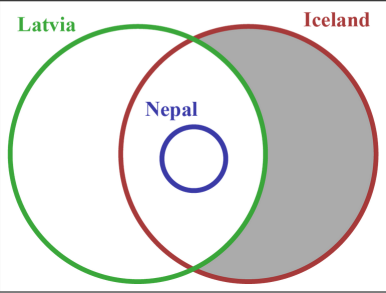
Training Page 5, Style: Subset: Spatial

Study on Well-Matchedness

Page 6/19

Training Question 5

Please study the information in the box.



This time the diagram shows three circles, representing three countries visited by people.

Select one of the following options that is definitely true:

- Everyone who visited Nepal also visited Iceland
- No one visited both Iceland and Latvia
- Everyone who visited Latvia also visited Nepal
- No one visited both Iceland and Nepal
- None of the above

Reveal answer

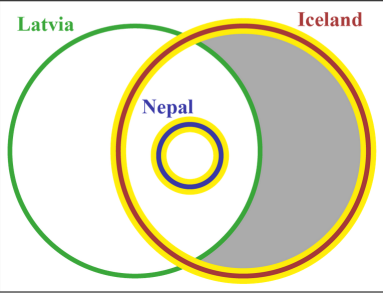
Training Page 5 Answer

Study on Well-Matchedness

Page 6/19

Training Question 5 Answer

Please study the information in the box.



The correct answer is 'Everyone who visited Nepal also visited Iceland'.

As shown highlighted in the diagram, the circle for Nepal is inside the circle for Iceland, so everyone who visited Nepal also visited Iceland.

[Next page](#) (you cannot return to this page afterwards)

Training Page 6, Style: Disjoint: Shading

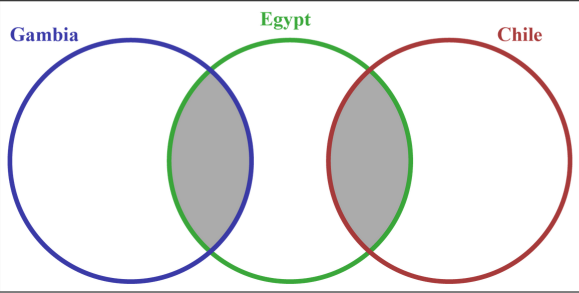
Study on Well-Matchedness

https://www.cs.kent.a

Page 7/19

Training Question 6

Please study the information in the box.



This time the diagram shows three circles, representing three countries visited by people.

Select one of the following options that is definitely true:

- Everyone who visited Gambia also visited Egypt
- Everyone who visited Chile also visited Egypt
- No one visited both Egypt and Gambia
- Everyone who visited Chile also visited Gambia
- None of the above

Reveal answer

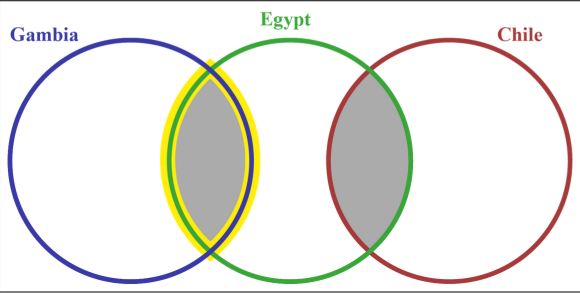
Training Page 6 Answer

Study on Well-Matchedness

Page 7/19

Training Question 6 Answer

Please study the information in the box.



The correct answer is 'No one visited both Egypt and Gambia'.

As shown highlighted in the diagram, the region inside both Egypt and Gambia is completely shaded which means that no one visited both Egypt and Gambia.

This completes the training part of the study. When you navigate to the next page, you will be asked to perform nine tasks similar to those you have just done, which will include attention checks.

Please answer as accurately as you can and without undue delay. We ask that you give the questions your full attention. Thank you.

[Next page](#) (you cannot return to this page afterwards)

3.2 Performance Tasks

The performance tasks shown here were presented in a random order, generated for each participant. However, the attention checking question, shown here as question A, was always positioned fifth. Questions numbered 5 to 8 therefore appear in the screenshots as questions 6 to 9. The question number matches the numbering used in the data collected from participants.

Question 1, Style: Subset, Treatment: WM

Page 8/19

Problem 1

Please study the information in the box.

Estonia	—	—	—	—
Italy	—	—		
Zambia	—			

Select one of the following options that is definitely true:

- Everyone who visited Zambia also visited Estonia
- No one visited both Italy and Zambia
- Everyone who visited Estonia also visited Zambia
- No one visited both Italy and Zambia
- None of the above

Next page (you cannot return to this page afterwards)

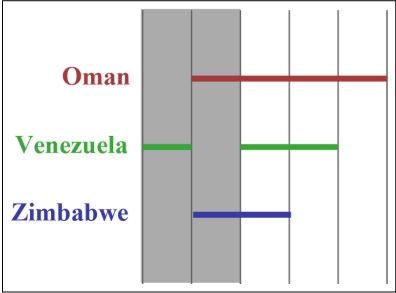
Question 2, Style: Subset, Treatment: WMA

Study on Well-Matchedness

Page 9/19

Problem 2

Please study the information in the box.



Select one of the following options that is definitely true:

- No one visited both Oman and Venezuela
- Everyone who visited Venezuela also visited Zimbabwe
- No one visited both Oman and Zimbabwe
- Everyone who visited Zimbabwe also visited Oman
- None of the above

[Next page](#) (you cannot return to this page afterwards)

Question 3, Style: Subset, Treatment: NWMA

Study on Well-Matchedness

https://www.cs.kent.ac.uk/peop

Page 10/19

Problem 3

Please study the information in the box.

Select one of the following options that is definitely true:

- No one visited both Croatia and Kenya
- Everyone who visited Turkey also visited Croatia
- No one visited both Kenya and Turkey
- Everyone who visited Croatia also visited Turkey
- None of the above

[Next page](#) (you cannot return to this page afterwards)

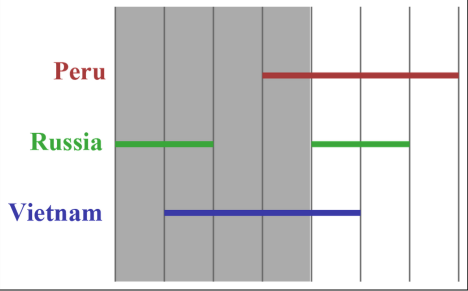
Question 4, Style: Subset, Treatment: NWM

Study on Well-Matchedness

Page 11/19

Problem 4

Please study the information in the box.



Select one of the following options that is definitely true:

- No one visited both Peru and Russia
- No one visited both Russia and Vietnam
- Everyone who visited Vietnam also visited Peru
- Everyone who visited Russia also visited Vietnam
- None of the above

[Next page](#) (you cannot return to this page afterwards)

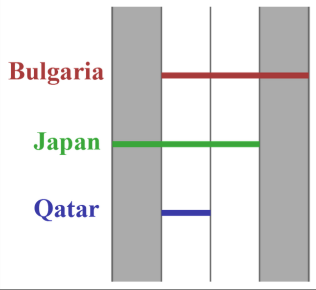
Question A, Style: Attention Check, Treatment: N/A; this question always appeared fifth

Study on Well-Matchedness

Page 12/19

Problem 5

Please study the information in the box.



Select one of the following options that is definitely true:

- Attention check Choose this Option
- Everyone who visited France also visited India
- Everyone who visited Australia also visited France
- No one visited both France and Australia
- None of the above

[Next page](#) (you cannot return to this page afterwards)

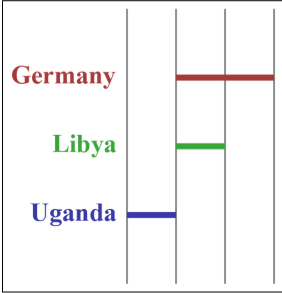
Question 5, Style: Disjoint, Treatment: WM

Study on Well-Matchedness

Page 13/19

Problem 6

Please study the information in the box.



Select one of the following options that is definitely true:

- Everyone who visited Uganda also visited Libya
- Everyone who visited Uganda also visited Germany
- No one visited both Germany and Libya
- No one visited both Libya and Uganda
- None of the above

[Next page](#) (you cannot return to this page afterwards)

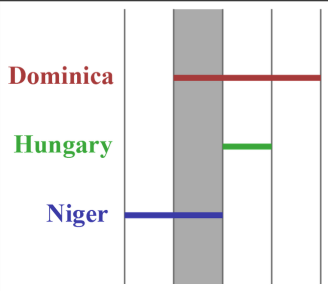
Question 6, Style: Disjoint, Treatment: WMA

Study on Well-Matchedness

Page 14/19

Problem 7

Please study the information in the box.



Select one of the following options that is definitely true:

- No one visited both Hungary and Niger
- Everyone who visited Hungary also visited Niger
- No one visited both Dominica and Hungary
- Everyone who visited Niger also visited Dominica
- None of the above

[Next page](#) (you cannot return to this page afterwards)

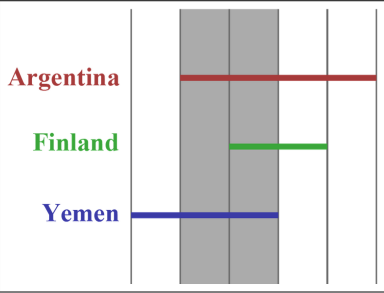
Question 7, Style: Disjoint, Treatment: NWMA

Study on Well-Matchedness

Page 15/19

Problem 8

Please study the information in the box.



Select one of the following options that is definitely true:

- Everyone who visited Finland also visited Yemen
- Everyone who visited Argentina also visited Finland
- No one visited both Finland and Yemen
- No one visited both Argentina and Finland
- None of the above

[Next page](#) (you cannot return to this page afterwards)

Question 8, Style: Disjoint, Treatment: NWM

Study on Well-Matchedness

Page 16/19

Problem 9

Please study the information in the box.

Select one of the following options that is definitely true:

- Everyone who visited Mexico also visited Taiwan
- No one visited both Mexico and Taiwan
- Everyone who visited Panama also visited Mexico
- No one visited both Panama and Mexico
- None of the above

[Next page](#) (you cannot return to this page afterwards)

3.3 Preference Questions

In the last phase of the study, participants were asked to provide a ranking for diagrams according to their preference. Here, the diagrams are shown in treatment order: WM, WMA, NWMA, and NWM. In the study, for each participant, a random order was selected for these diagrams. The first ranking task included an attention check.

Question 1, Style: Subset

Study on Well-Matchedness
x + - □ ×

← → ↻ 🏠
🔒 https://www.cs.kent.ac.uk/peop ... ☆ >> ☰

Page 17/19

Problem 10

Please enter a value for every input box. **You will not be able to move on if any of the fields are empty.**

Each of the below diagrams tells us that **everyone who visited Ukraine also visited Romania**.

Please rank the four diagrams, **with 1 being best and 4 being worst**, according to how effectively you think they convey that everyone who visited Ukraine also visited Romania. You may rank diagrams equally.

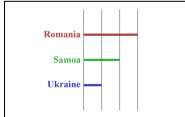


Diagram A rank:

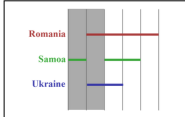


Diagram B rank:

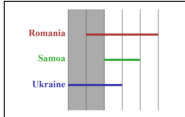


Diagram C rank:

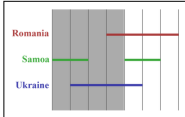


Diagram D rank:

Please explain why you ranked them in this way. When referring to a specific diagram in your comments please use the references A, B, C and D.

To check that you are paying attention, please select the option 'No'.

Yes

Next page (you cannot return to this page afterwards)

Question 2, Style: Disjoint

Study on Well-Matchedness

https://www.cs.kent.ac.uk/peop

Page 18/19

Problem 11

Please enter a value for every input box. **You will not be able to move on if any of the fields are empty.**

Each of the below diagrams tells us that **no visited both India and Zambia**.

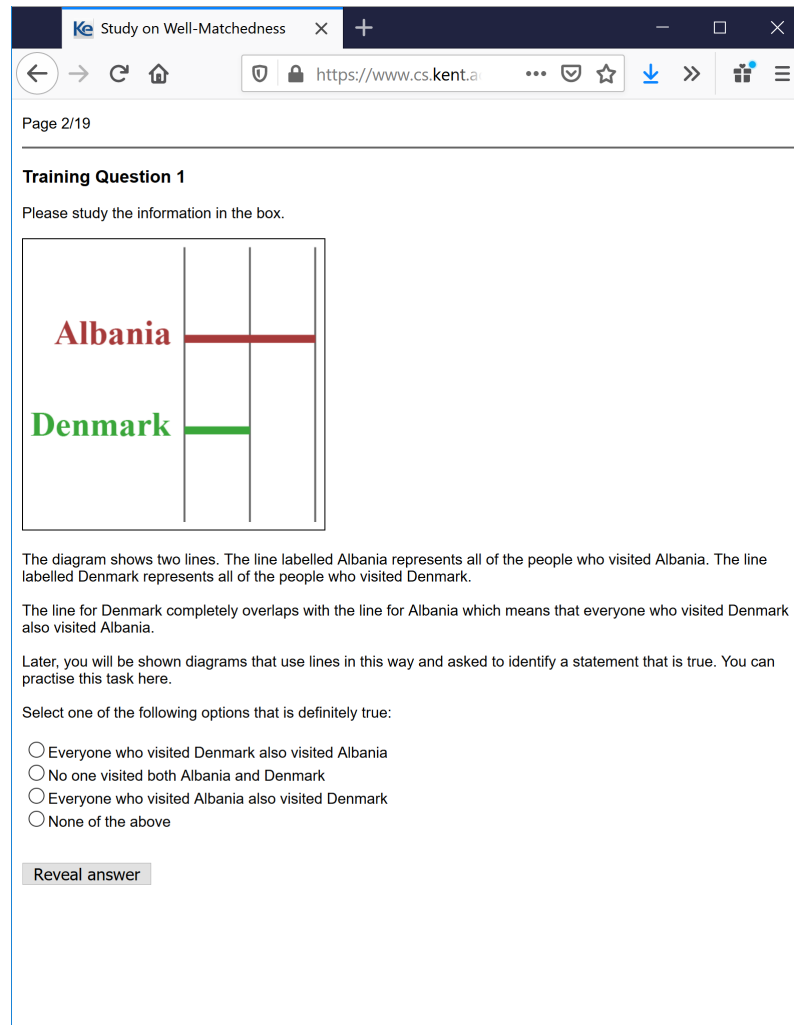
Please rank the four diagrams, **with 1 being best and 4 being worst**, according to how effectively you think they convey that no one visited both India and Zambia. You may rank diagrams equally.

4 Well-Matchedness in Linear Diagrams

4.1 Training Material

Each participant was presented with six training diagrams, alongside practise tasks and explanations. The training pages were presented in the same order for each diagram.

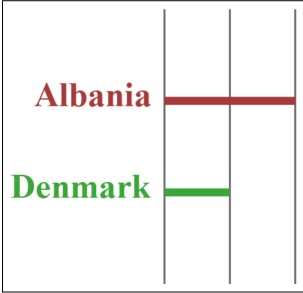
Training Page 1, Style: Subset: Spatial



Page 2/19

Training Question 1

Please study the information in the box.



The diagram shows two lines. The line labelled Albania represents all of the people who visited Albania. The line labelled Denmark represents all of the people who visited Denmark.

The line for Denmark completely overlaps with the line for Albania which means that everyone who visited Denmark also visited Albania.

Later, you will be shown diagrams that use lines in this way and asked to identify a statement that is true. You can practise this task here.

Select one of the following options that is definitely true:

- Everyone who visited Denmark also visited Albania
- No one visited both Albania and Denmark
- Everyone who visited Albania also visited Denmark
- None of the above

[Reveal answer](#)

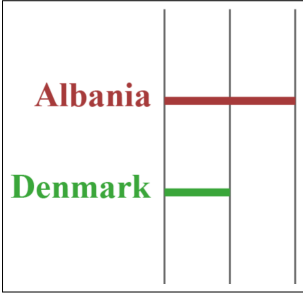
Training Page 1 Answer

Study on Well-Matchedness

Page 2/19

Training Question 1 Answer

Please study the information in the box.



The correct answer is 'Everyone who visited Denmark also visited Albania'.

The line for Denmark completely overlaps with the line for Albania which means that everyone who visited Denmark also visited Albania.

[Next page](#) (you cannot return to this page afterwards)

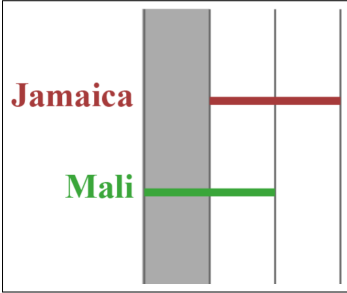
Training Page 2, Style: Subset: Shading

Study on Well-Matchedness

Page 3/19

Training Question 2

Please study the information in the box.



The diagram shows two lines. The line labelled Jamaica represents all of the people who visited Jamaica. The line labelled Mali represents all of the people who visited Mali.

The overlap between the lines Mali and Jamaica is shaded which means that no one visited Mali but not Jamaica

The non-shaded part of the line for Mali completely overlaps with the line Jamaica which means that everyone who visited Mali also visited Jamaica.

Later, you will be shown diagrams that use shading in this way and asked to identify a statement that is true. You can practise this task here.

Select one of the following options that is definitely true:

- Everyone who visited Jamaica also visited Mali
- Everyone who visited Mali also visited Jamaica
- No one visited both Jamaica and Mali
- None of the above

Reveal answer

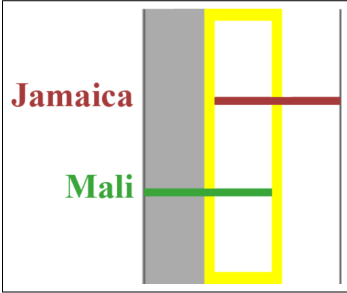
Training Page 2 Answer

Study on Well-Matchedness

Page 3/19

Training Question 2 Answer

Please study the information in the box.



The correct answer is 'Everyone who visited Mali also visited Jamaica'.

As shown highlighted in the diagram, the non-shaded part of the line for Mali completely overlaps with the line for Jamaica which means that everyone who visited Mali also visited Jamaica.

[Next page](#) (you cannot return to this page afterwards)

Detailed description of the Venn diagram: The diagram consists of two overlapping horizontal bars. The top bar is labeled 'Jamaica' in red text and is shaded grey. The bottom bar is labeled 'Mali' in green text and is shaded grey. A yellow rectangular box highlights the intersection of the two bars. The portion of the 'Mali' bar that is inside the yellow box is not shaded, while the portion of the 'Mali' bar that is outside the yellow box is shaded grey. This visualizes that the set of people who visited Mali is a subset of the set of people who visited Jamaica.

Training Page 3, Style: Disjoint: Spatial

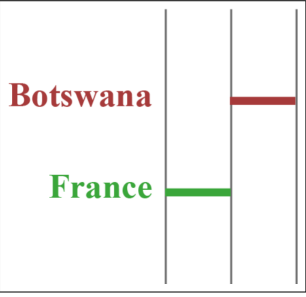
Study on Well-Matchedness

https://www.cs.kent.ac.uk

Page 4/19

Training Question 3

Please study the information in the box.



The diagram shows two lines. The line labelled Botswana represents all of the people who visited Botswana. The line labelled France represents all of the people who visited France.

The lines for Botswana and France do not overlap which means that no one visited both Botswana and France.

Later, you will be shown diagrams that use lines in this way and asked to identify a statement that is true. You can practise this task [here](#).

Select one of the following options that is definitely true:

- Everyone who visited Botswana also visited France
- No one visited both Botswana and France
- Everyone who visited France also visited Botswana
- None of the above

[Reveal answer](#)

Training Page 3 Answer

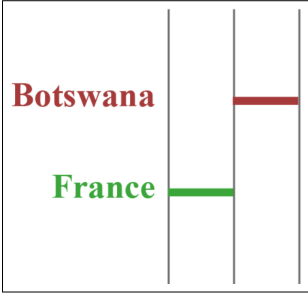
Study on Well-Matchedness

https://www.cs.kent.ac.uk/peop

Page 4/19

Training Question 3 Answer

Please study the information in the box.



The correct answer is 'No one visited both Botswana and France'.

The lines for Botswana and France do not overlap which means that no one visited both Botswana and France.

[Next page](#) (you cannot return to this page afterwards)

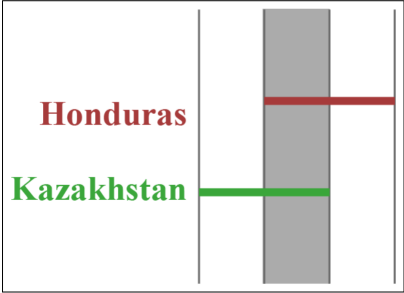
Training Page 4, Style: Disjoint: Shading

Study on Well-Matchedness

Page 5/19

Training Question 4

Please study the information in the box.



The diagram shows two lines. The line labelled Honduras represents all of the people who visited Honduras. The line labelled Kazakhstan represents all of the people who visited Kazakhstan.

The overlap between the lines Honduras and Kazakhstan is shaded which means that no one visited both Honduras and Kazakhstan.

Later, you will be shown diagrams that use shading in this way and asked to identify a statement that is true. You can practise this task here.

Select one of the following options that is definitely true:

- Everyone who visited Honduras also visited Kazakhstan
- Everyone who visited Kazakhstan also visited Honduras
- No one visited both Honduras and Kazakhstan
- None of the above

Reveal answer

Training Page 4 Answer

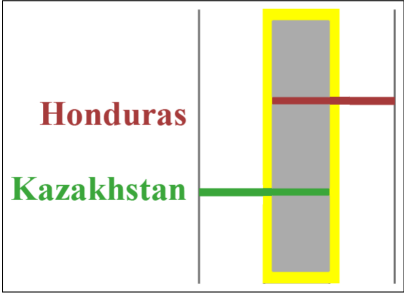
Study on Well-Matchedness

https://www.cs.kent.ac.uk

Page 5/19

Training Question 4 Answer

Please study the information in the box.



The correct answer is 'No one visited both Honduras and Kazakhstan'.

As shown highlighted in the diagram, the overlap between the lines Honduras and Kazakhstan is shaded which means that no one visited both Honduras and Kazakhstan.

[Next page](#) (you cannot return to this page afterwards)

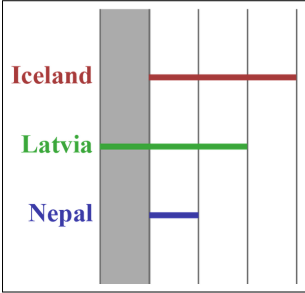
Training Page 5, Style: Subset: Spatial

Study on Well-Matchedness

Page 6/19

Training Question 5

Please study the information in the box.



This time the diagram shows three lines, representing three countries visited by people.

Select one of the following options that is definitely true:

- Everyone who visited Nepal also visited Iceland
- No one visited both Iceland and Latvia
- Everyone who visited Latvia also visited Nepal
- No one visited both Iceland and Nepal
- None of the above

Reveal answer

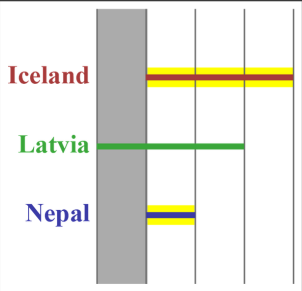
Training Page 5 Answer

Study on Well-Matchedness

Page 6/19

Training Question 5 Answer

Please study the information in the box.



The correct answer is 'Everyone who visited Nepal also visited Iceland'.

As shown highlighted in the diagram, the line for Nepal completely overlaps with the line for Iceland, so everyone who visited Nepal also visited Iceland.

[Next page](#) (you cannot return to this page afterwards)

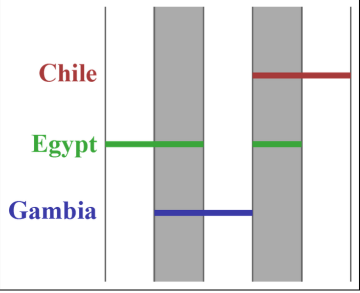
Training Page 6, Style: Disjoint: Shading

Study on Well-Matchedness

Page 7/19

Training Question 6

Please study the information in the box.



This time the diagram shows three lines, representing three countries visited by people.

Select one of the following options that is definitely true:

- Everyone who visited Gambia also visited Egypt
- Everyone who visited Chile also visited Egypt
- No one visited both Egypt and Gambia
- Everyone who visited Chile also visited Gambia
- None of the above

Reveal answer

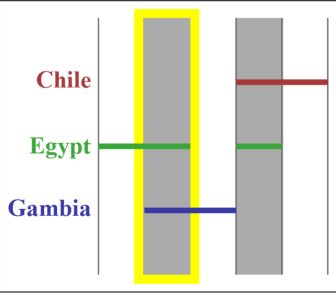
Training Page 6 Answer

Study on Well-Matchedness

Page 7/19

Training Question 6 Answer

Please study the information in the box.



The correct answer is 'No one visited both Egypt and Gambia'.

As shown highlighted in the diagram, the overlap between the lines Egypt and Gambia is shaded which means that no one visited both Egypt and Gambia.

This completes the training part of the study. When you navigate to the next page, you will be asked to perform nine tasks similar to those you have just done, which will include attention checks.

Please answer as accurately as you can and without undue delay. We ask that you give the questions your full attention. Thank you.

[Next page](#) (you cannot return to this page afterwards)

4.2 Performance Tasks

The performance tasks shown here were presented in a random order, generated for each participant. However, the attention checking question, shown here as question A, was always positioned fifth. Questions numbered 5 to 8 therefore appear in the screenshots as questions 6 to 9. The question number matches the numbering used in the data collected from participants.

Question 1, Style: Subset, Treatment: WM

Page 8/19

Problem 1

Please study the information in the box.

Select one of the following options that is definitely true:

- Everyone who visited Zambia also visited Estonia
- No one visited both Italy and Zambia
- Everyone who visited Estonia also visited Zambia
- No one visited both Italy and Zambia
- None of the above

Next page (you cannot return to this page afterwards)

Question 2, Style: Subset, Treatment: WMA

Study on Well-Matchedness

Page 9/19

Problem 2

Please study the information in the box.

Select one of the following options that is definitely true:

- No one visited both Oman and Venezuela
- Everyone who visited Venezuela also visited Zimbabwe
- No one visited both Oman and Zimbabwe
- Everyone who visited Zimbabwe also visited Oman
- None of the above

[Next page](#) (you cannot return to this page afterwards)

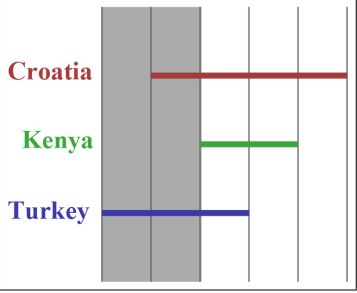
Question 3, Style: Subset, Treatment: NWMA

Study on Well-Matchedness

Page 10/19

Problem 3

Please study the information in the box.



Select one of the following options that is definitely true:

- No one visited both Croatia and Kenya
- Everyone who visited Turkey also visited Croatia
- No one visited both Kenya and Turkey
- Everyone who visited Croatia also visited Turkey
- None of the above

[Next page](#) (you cannot return to this page afterwards)

Question 4, Style: Subset, Treatment: NWM

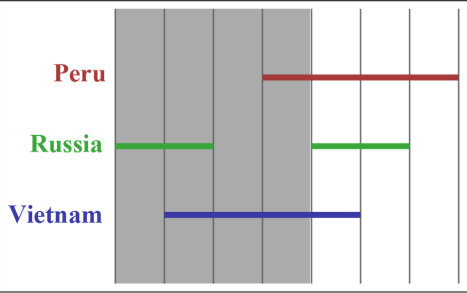
Study on Well-Matchedness

https://www.cs.kent.ac.uk/peop

Page 11/19

Problem 4

Please study the information in the box.



Select one of the following options that is definitely true:

- No one visited both Peru and Russia
- No one visited both Russia and Vietnam
- Everyone who visited Vietnam also visited Peru
- Everyone who visited Russia also visited Vietnam
- None of the above

[Next page](#) (you cannot return to this page afterwards)

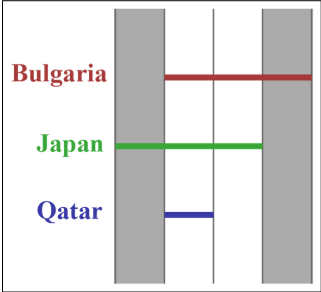
Question A, Style: Attention Check, Treatment: N/A; this question always appeared fifth

Study on Well-Matchedness

Page 12/19

Problem 5

Please study the information in the box.



Select one of the following options that is definitely true:

- Attention check Choose this Option
- Everyone who visited France also visited India
- Everyone who visited Australia also visited France
- No one visited both France and Australia
- None of the above

[Next page](#) (you cannot return to this page afterwards)

Question 5, Style: Disjoint, Treatment: WM

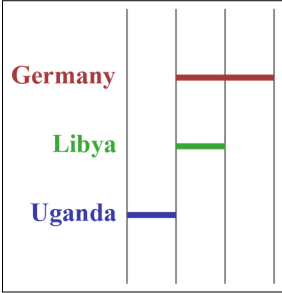
Study on Well-Matchedness

https://www.cs.kent.ac.uk/peop

Page 13/19

Problem 6

Please study the information in the box.



Select one of the following options that is definitely true:

- Everyone who visited Uganda also visited Libya
- Everyone who visited Uganda also visited Germany
- No one visited both Germany and Libya
- No one visited both Libya and Uganda
- None of the above

[Next page](#) (you cannot return to this page afterwards)

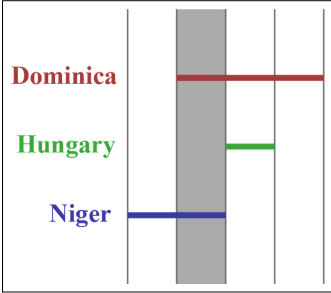
Question 6, Style: Disjoint, Treatment: WMA

Study on Well-Matchedness

Page 14/19

Problem 7

Please study the information in the box.



Select one of the following options that is definitely true:

- No one visited both Hungary and Niger
- Everyone who visited Hungary also visited Niger
- No one visited both Dominica and Hungary
- Everyone who visited Niger also visited Dominica
- None of the above

[Next page](#) (you cannot return to this page afterwards)

Question 7, Style: Disjoint, Treatment: NWMA

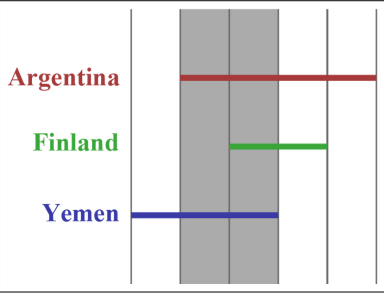
Study on Well-Matchedness

https://www.cs.kent.ac.uk/peop

Page 15/19

Problem 8

Please study the information in the box.



Select one of the following options that is definitely true:

- Everyone who visited Finland also visited Yemen
- Everyone who visited Argentina also visited Finland
- No one visited both Finland and Yemen
- No one visited both Argentina and Finland
- None of the above

[Next page](#) (you cannot return to this page afterwards)

Question 8, Style: Disjoint, Treatment: NWM

Study on Well-Matchedness

Page 16/19

Problem 9

Please study the information in the box.

Select one of the following options that is definitely true:

- Everyone who visited Mexico also visited Taiwan
- No one visited both Mexico and Taiwan
- Everyone who visited Panama also visited Mexico
- No one visited both Panama and Mexico
- None of the above

[Next page](#) (you cannot return to this page afterwards)

4.3 Preference Questions

In the last phase of the study, participants were asked to provide a ranking for diagrams according to their preference. The first ranking task included an attention check.

Question 1, Style: Subset

Study on Well-Matchedness
x + - □ x

← → ↻ 🏠
🔒 https://www.cs.kent.ac.uk/peop ... 🌟 >> ☰

Page 17/19

Problem 10

Please enter a value for every input box. **You will not be able to move on if any of the fields are empty.**

Each of the below diagrams tells us that **everyone who visited Ukraine also visited Romania**.

Please rank the four diagrams, **with 1 being best and 4 being worst**, according to how effectively you think they convey that everyone who visited Ukraine also visited Romania. You may rank diagrams equally.

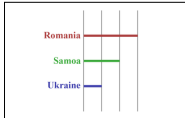


Diagram A rank:

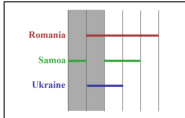


Diagram B rank:

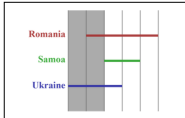


Diagram C rank:

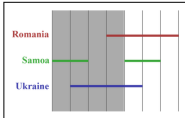


Diagram D rank:

Please explain why you ranked them in this way. When referring to a specific diagram in your comments please use the references A, B, C and D.

To check that you are paying attention, please select the option 'No'.

Yes

Next page (you cannot return to this page afterwards)

Question 2, Style: Disjoint

Study on Well-Matchedness

https://www.cs.kent.ac.uk/peop

Page 18/19

Problem 11

Please enter a value for every input box. **You will not be able to move on if any of the fields are empty.**

Each of the below diagrams tells us that **no visited both India and Zambia**.

Please rank the four diagrams, **with 1 being best and 4 being worst**, according to how effectively you think they convey that no one visited both India and Zambia. You may rank diagrams equally.

Diagram A rank: Diagram B rank: Diagram C rank: Diagram D rank:

Please explain why you ranked them in this way. When referring to a specific diagram in your comments please use the references A, B, C and D.

[Next page](#) (you cannot return to this page afterwards)