

SOM-U: EXPERIMENT STIMULI

B: Experiment 1 Scenarios [negative test result condition in braces]

Nitroglycerine test

Ann is suspected of handling explosives.

Police use the *Griess test* for the presence of nitroglycerine on her hands - a standard test for detecting whether someone has handled explosives.

Reliable empirical research shows that the probability of testing positive is 94% if someone has handled explosives.

However, the test can also give positive results for another reason.

Ann claims she was playing cards shortly before being tested.

Reliable empirical research shows that the probability of testing positive is 94% if someone has handled cards.

Ann tests **positive** [negative].

Brain tumor diagnosis

Gary is suspected of having a brain tumor.

The doctors use the *DuPoint test* for detecting cell plaque formations caused by a tumor - a standard test for detecting a brain tumor.

Reliable empirical research shows that the probability of testing positive is 90% if someone has a brain tumor.

However, the test can also give positive results for another reason.

Early Onset Dementia (EOD) may also lead to build up of cell plaque formations.

Reliable empirical research shows that the probability of testing positive is 90% if someone has EOD.

Gary tests **positive** [**negative**].

Athlete doping

Alice is an athlete suspected of using steroids.

The testing agency uses a *Feines blood test* for detecting particular proteins in the blood - a standard test for detecting steroid use.

Reliable empirical research shows that the probability of testing positive is 88% if someone has used steroids in the past week.

However, the test can also give positive results for another reason.

Alice claims she had drunk a soy-based health drink the day before being tested. The drink is found to contain a similar, albeit legal protein.

Reliable empirical research shows that the probability of testing positive is 88% if someone has ingested this type of product.

Alice tests **positive** [**negative**].

Crash Site Wreckage

Crash site wreckage is suspected of being an unmanned Russian spy plane.

These planes are known to contain high atmosphere electronics, which require a specialist Aluminium-Zinc alloy (AlZ36).

Federal Investigators use the *TCR12 test* - a standard test for detecting this alloy.

Reliable empirical research shows that the probability of testing positive is 92% if AlZ36 is present.

However, the test can also give positive results for another reason.

Unmanned drones used by the US use a similar Aluminium-Zinc alloy (AlZ40) for their electronics.

Reliable empirical research shows that the probability of testing positive is 92% if AlZ40 is present.

The wreckage tests **positive** [**negative**].

C: Example scenario screen with confidence measure (Experiment 2):

Positive test result, non-exhaustiveness statement condition.

Alice is an athlete suspected of using steroids.

The testing agency uses a *Feines blood test* for detecting particular proteins in the blood - a standard test for detecting steroid use.

Reliable empirical research shows that the probability of testing positive is 88% if someone has used steroids in the past week.

However, the test can also give positive results for another reason.

Alice claims she had drunk a soy-based health drink the day before being tested. The drink is found to contain a similar, albeit legal protein.

Reliable empirical research shows that the probability of testing positive is 88% if someone has ingested this type of product.

Alice tests **positive**.

Please note, it is also possible that Alice **neither** took steroids **nor** soy drinks.

Does a **positive Feines blood test** give **any support** to the claim that Alice **has** used steroids?

- Yes
- No
- Cannot Tell

How **confident** are you that **your response is correct**?

Click the bar below, indicating between 0% (left-most point) and 100% (right-most point).

Confidence (%)

D: Experiment 3 scenarios: Leak Values and Exclusivity

Scenarios with Exclusivity manipulation present (positive case)

Brain tumor diagnosis

Gary is suspected of having a brain tumor.

The doctors use the *DuPoint test* for detecting cell plaque formations caused by a tumor - a standard test for detecting a brain tumor.

Reliable empirical research shows that the probability of testing positive is 90% if someone has a brain tumor.

However, the test can also give positive results for another reason.

Early Onset Dementia (EOD) may also lead to a build up of cell plaque formations.

Reliable empirical research shows that the probability of testing positive is 90% if someone has EOD.

Importantly, Gary's other symptoms mean it is not possible for **both** to be true (i.e. Gary can't have a tumor **and** EOD).

If neither disease is present, there is only a 3% chance of the test being positive.

Gary tests **positive**.

Does a **positive DuPoint test** give **any support** to the claim that Gary **does have** a brain tumor?

- Cannot Tell
- Yes
- No

How **confident** are you that **your response is correct**?

Click the bar below, indicating between 0% (left-most point) and 100% (right-most point).

Confidence (%) [Slider]

Athlete Doping

Alice is an athlete suspected of using steroids the day before a race.

The testing agency uses a *Feines blood test* for detecting particular proteins in the blood - a standard test for detecting steroid use.

Reliable empirical research shows that the probability of testing positive is 88% if someone has used steroids recently.

However, the test can also give positive results for another reason.

Alice claims she had drunk a soy-based health drink the day before the race. The drink is found to contain a similar, albeit legal protein.

Reliable empirical research shows that the probability of testing positive is 88% if someone has ingested this type of product.

Importantly, the other facts of the situation (the athlete was only unmonitored for 10 minutes) mean it is not possible for **both** to be true (i.e. Alice did not have time to take steroids **and** buy and ingest the soy drink).

If neither substance has been used / ingested, there is only a 2% chance the test being positive.

Alice tests **positive**.

Does a **positive Feines blood test** give **any support** to the claim that Alice **has** used steroids?

- No
- Cannot Tell
- Yes

How **confident** are you that **your response is correct**?

Click the bar below, indicating between 0% (left-most point) and 100% (right-most point).

Confidence (%) [Slider]

Nitroglycerine test

Ann is suspected of handling explosives.

Police use the *Griess test* for the presence of nitroglycerine on her hands - a standard test for detecting whether someone has handled explosives.

Reliable empirical research shows that the probability of testing positive is 94% if someone has handled explosives.

However, the test can also give positive results for another reason.

Ann claims that at the time she is accused of handling explosives, she was instead playing cards.

Reliable empirical research shows that the probability of testing positive is 94% if someone has handled cards.

Importantly, the other facts of the case mean it is not possible for **both** to be true (i.e. Ann can't have handled explosives **and** played cards).

If neither nitroglycerine nor playing cards have been handled, there is only a 1% chance of the test being positive.

Ann tests **positive**.

Does a **positive Griess test** give **any support** to the claim that Ann **has** handled explosives?

- Cannot Tell
- No
- Yes

How **confident** are you that **your response is correct**?

Click the bar below, indicating between 0% (left-most point) and 100% (right-most point).

Confidence (%) [Slider]

Crash Site Wreckage

Crash site wreckage is suspected of containing an unmanned Russian spy plane.

These planes are known to contain high atmosphere electronics, which require a specialist Aluminium-Zinc alloy (AlZ36).

Federal Investigators use the *TCR12 test* - a standard test for detecting this alloy.

Reliable empirical research shows that the probability of testing positive is 92% if AlZ36 is present.

However, the test can also give positive results for another reason.

Unmanned drones used by the US use a similar Aluminium-Zinc alloy (AlZ40) for their electronics.

Reliable empirical research shows that the probability of testing positive is 92% if AlZ40 is present.

Importantly, the size of the wreckage means it is not possible for **both** to be true (i.e. the wreckage can't contain a spy plane **and** a drone).

If neither alloy is present, there is only a 0.5% chance of the test being positive.

The wreckage tests **positive**.

Does a **positive TCR12 test** give **any support** to the claim that the wreckage **does** contain a Russian spy plane?

- Yes
- No
- Cannot Tell

How **confident** are you that **your response is correct**?

Click the bar below, indicating between 0% (left-most point) and 100% (right-most point).

Confidence (%) [Slider]

Scenarios with Exclusivity manipulation absent (negative case)

Brain tumor diagnosis

Gary is suspected of having a brain tumor.

The doctors use the *DuPoint test* for detecting cell plaque formations caused by a tumor - a standard test for detecting a brain tumor.

Reliable empirical research shows that the probability of testing positive is 90% if someone has a brain tumor.

However, the test can also give positive results for another reason.

Early Onset Dementia (EOD) may also lead to a build up of cell plaque formations.

Reliable empirical research shows that the probability of testing positive is 90% if someone has EOD.

If neither disease is present, there is only a 3% chance of the test being positive.

Gary tests **negative**.

Does a **negative DuPoint test** give **any support** to the claim that Gary **does not have** a brain tumor?

No

Yes

Cannot Tell

How **confident** are you that **your response is correct**?

Click the bar below, indicating between 0% (left-most point) and 100% (right-most point).

Confidence (%) [Slider]

Athlete Doping

Alice is an athlete suspected of using steroids the day before a race.

The testing agency uses a *Feines blood test* for detecting particular proteins in the blood - a standard test for detecting steroid use.

Reliable empirical research shows that the probability of testing positive is 88% if someone has used steroids in the past week.

However, the test can also give positive results for another reason.

Alice claims she had drunk a soy-based health drink the day before the race. The drink is found to contain a similar, albeit legal protein.

Reliable empirical research shows that the probability of testing positive is 88% if someone has ingested this type of product.

If neither substance has been used / ingested, there is only a 2% chance of the test being positive.

Alice tests **negative**.

Does a **negative Feines blood test** give **any support** to the claim that Alice **has not** used steroids?

- No
- Cannot Tell
- Yes

How **confident** are you that **your response is correct**?

Click the bar below, indicating between 0% (left-most point) and 100% (right-most point).

Confidence (%) [Slider]

Nitroglycerine test

Ann is suspected of handling explosives.

Police use the *Griess test* for the presence of nitroglycerine on her hands - a standard test for detecting whether someone has handled explosives.

Reliable empirical research shows that the probability of testing positive is 94% if someone has handled explosives.

However, the test can also give positive results for another reason.

Ann claims she was playing cards shortly before being tested.

Reliable empirical research shows that the probability of testing positive is 94% if someone has handled cards.

If neither nitroglycerine nor playing cards have been handled, there is only a 1% chance of the test being positive.

Ann tests **negative**.

Does a **negative Griess test** give **any support** to the claim that Ann **has not** handled explosives?

- No
- Yes
- Cannot Tell

How **confident** are you that **your response is correct**?

Click the bar below, indicating between 0% (left-most point) and 100% (right-most point).

Confidence (%) [Slider]

Crash Site Wreckage

Crash site wreckage is suspected of being an unmanned Russian spy plane.

These planes are known to contain high atmosphere electronics, which require a specialist Aluminium-Zinc alloy (AlZ36).

Federal Investigators use the *TCR12 test* - a standard test for detecting this alloy.

Reliable empirical research shows that the probability of testing positive is 92% if AlZ36 is present.

However, the test can also give positive results for another reason.

Unmanned drones used by the US use a similar Aluminium-Zinc alloy (AlZ40) for their electronics.

Reliable empirical research shows that the probability of testing positive is 92% if AlZ40 is present.

If neither alloy is present, there is only a 0.5% chance of the test being positive.

The wreckage tests **negative**.

Does a **negative TCR12 test** give **any support** to the claim that the wreckage **is not** a Russian spy plane?

- Cannot Tell
- Yes
- No

How **confident** are you that **your response is correct**?

Click the bar below, indicating between 0% (left-most point) and 100% (right-most point).

Confidence (%) [Slider]

F: Experiment 4 (see SOM-R file) scenarios - Main Hypothesis Favoured
Condition [Disfavoured in braces (along with negative test result condition)]

Nitroglycerine test

Ann is suspected of handling explosives.

Police use the *Griess test* for the presence of nitroglycerine on her hands - a standard test for detecting whether someone has handled explosives.

Reliable empirical research shows that the probability of testing positive is 95[90]% if someone has handled explosives.

However, the test can also give positive results for another reason.

Ann claims she was playing cards shortly before being tested.

Reliable empirical research shows that the probability of testing positive is 90[95]% if someone has handled cards.

Ann tests **positive** [negative].

Brain tumor diagnosis

Gary is suspected of having a brain tumor.

The doctors use the *DuPoint test* for detecting cell plaque formations caused by a tumor - a standard test for detecting a brain tumor.

Reliable empirical research shows that the probability of testing positive is 90[84]% if someone has a brain tumor.

However, the test can also give positive results for another reason.

Early Onset Dementia (EOD) may also lead to build up of cell plaque formations.

Reliable empirical research shows that the probability of testing positive is 84[90]% if someone has EOD.

Gary tests **positive** [**negative**].

Athlete doping

Alice is an athlete suspected of using steroids.

The testing agency uses a *Feines blood test* for detecting particular proteins in the blood - a standard test for detecting steroid use.

Reliable empirical research shows that the probability of testing positive is 88[80]% if someone has used steroids in the past week.

However, the test can also give positive results for another reason.

Alice claims she had drunk a soy-based health drink the day before being tested. The drink is found to contain a similar, albeit legal protein.

Reliable empirical research shows that the probability of testing positive is 80[88]% if someone has ingested this type of product.

Alice tests **positive** [**negative**].

Crash Site Wreckage

Crash site wreckage is suspected of being an unmanned Russian spy plane.

These planes are known to contain high atmosphere electronics, which require a specialist Aluminium-Zinc alloy (AlZ36).

Federal Investigators use the *TCR12 test* - a standard test for detecting this alloy.

Reliable empirical research shows that the probability of testing positive is 92[82]% if AlZ36 is present.

However, the test can also give positive results for another reason.

Unmanned drones used by the US use a similar Aluminium-Zinc alloy (AlZ40) for their electronics.

Reliable empirical research shows that the probability of testing positive is 82[92]% if AlZ40 is present.

The wreckage tests **positive** [**negative**].