



Metacognitive Training (MCT)

# MCT 3 B – Changing Beliefs

© Moritz & Woodward, 12|21

Permission to use the pictures in this module has been provided by the artists and copyright holders.  
For details (artist, title), please refer to the end of this presentation.





# Changing Beliefs

Human tendency to hang onto first impressions (e.g. prejudice, “the first impression is the only impression” attitude).



# Changing Beliefs

Human tendency to hang onto first impressions (e.g. prejudice, “the first impression is the only impression” attitude).

- Reasons: ???
- Problems: ???



# Changing Beliefs

Human tendency to hang onto first impressions (e.g. prejudice, “the first impression is the only impression” attitude).

- **Reasons:** Laziness, “confirmation bias”\*, thoughtlessness, helps to orient in a complex world, pride
- **Problems:** ???

\* You only see what you want to see



# Changing Beliefs

Human tendency to hang onto first impressions (e.g. prejudice, “the first impression is the only impression” attitude).

- **Reasons:** Laziness, “confirmation bias”\*, thoughtlessness, helps to orient in a complex world, pride
- **Problems:** False judgments (e.g. racial prejudices) are maintained, false over-generalization (“seen one – seen them all”), someone is not given a second chance who might have deserved one

\* You only see what you want to see



# Quotes by people who made incorrect predictions

“Sensible and responsible women do not want to vote.”

Grover Cleveland, former President of the United States of America, 1905

“This 'telephone' has too many shortcomings to be seriously considered as a means of communication. The device is inherently of no value to us.”

Western Union, leading company for financial services and communications, 1876

“It will take more than one generation until the first manned mission lands on the moon.”

Harold Spencer, Astronomer, 1957 (the landing on the moon happened 12 years later)

“The horse is here to stay but the automobile is only a novelty – a fad.”

The president of the Michigan Savings Bank about investing in Ford Motor Co., 1903

“X-rays will prove to be a hoax.”

Lord Kelvin, President of the Royal Society, 1883

“The phonograph has no commercial value at all.”

Thomas Edison, famous American inventor, 1880s (phonograph = first device to record voices)



# Quotes by people who made incorrect predictions

“Sensible and responsible women do not want to vote.”

Grover Cleveland, former President of the United States of America, 1905

“This 'telephone' has too many shortcomings to be seriously considered as a means of communication. The device is inherently of no value to us.”

Western Union, leading company for financial services and communications, 1876

“It will take more than one generation until the first manned mission lands on the moon.”

Harold Spencer, Astronomer, 1957 (the landing on the moon happened 12 years later)

“The horse is here to stay but the automobile is only a novelty – a fad.”

The president of the Michigan Savings Bank about investing in Ford Motor Co., 1903

“X-rays will prove to be a hoax.”

Lord Kelvin, President of the Royal Society, 1883

“The phonograph has no commercial value at all.”

Thomas Edison, famous American inventor, 1880s (phonograph = first device to record voices)

We should be open-minded about new experiences – time changes and no one can foresee what the future brings.



# Inflexibility “in action” (“tunnel vision”)

domain	examples
geography	???
medicine	???
economy	???





# Inflexibility “in action” (“tunnel vision”)

domain	examples
geography	<ul style="list-style-type: none"> <li>The sun revolves around a stationary earth! This view was considered absolute truth by the Catholic church in medieval times, although reputable scientists like Galileo Galilei were able to provide proof for the opposite. The truth, that the earth revolves around the sun, was even considered blasphemy at that time.</li> </ul>
medicine	???
economy	???



# Inflexibility “in action” (“tunnel vision”)

domain	examples
geography	<ul style="list-style-type: none"> <li>The sun revolves around a stationary earth! This view was considered absolute truth by the Catholic church in medieval times, although reputable scientists like Galileo Galilei were able to provide proof for the opposite. The truth, that the earth revolves around the sun, was even considered blasphemy at that time.</li> </ul>
medicine	<ul style="list-style-type: none"> <li>Dangerous medication has remained on the market too long in the past despite early warnings (examples: Contergan scandal in Europe; Vioxx scandal in North America).</li> </ul>
economy	???



# Inflexibility “in action” (“tunnel vision”)

domain	examples
geography	<ul style="list-style-type: none"> <li>The sun revolves around a stationary earth! This view was considered absolute truth by the Catholic church in medieval times, although reputable scientists like Galileo Galilei were able to provide proof for the opposite. The truth, that the earth revolves around the sun, was even considered blasphemy at that time.</li> </ul>
medicine	<ul style="list-style-type: none"> <li>Dangerous medication has remained on the market too long in the past despite early warnings (examples: Contergan scandal in Europe; Vioxx scandal in North America).</li> </ul>
economy	<ul style="list-style-type: none"> <li>Missing out new developments; sticking to outdated business strategies, selling outdated products (e.g. photographic films, typewriters); ignoring new technologies (e.g. a company that has no webpage on the internet).</li> </ul>



## Why are we doing this?

Studies show that many (but not all!) people with psychosis continue to cling to their opinion or belief about an event, even when confronted with information that challenges this belief.

This may lead to interpersonal problems and may obstruct a healthy, realistic view of the environment.



## How rigidly held beliefs promote misinterpretation during psychosis – examples

- You do not exchange ideas with others because you expect/fear conflict or do not trust other people anymore.
- Disagreement or questioning is perceived as a hostile challenge.
- Information is derived from one source only (e.g. internet forums about conspiracy theories), with other more serious media (e.g. press agencies) not being considered.

Can anyone contribute a short personal experience?



The three pictures below belong to a certain category. What is the category?



If you are confident about the underlying category, give your answer.

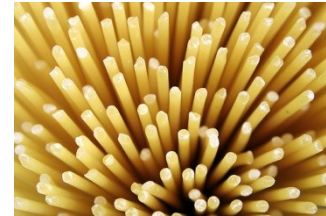
You will get feedback (“yes” vs. “no”).

Please suggest other items in the sequence to test your assumption.



# Category: Food!

Further options:



**Common error:** Most people only search for information that supports their assumption but do not look for contradictory information (due to the confirmation bias). In this case, the seemingly correct category is fruits. Often, no alternative considerations/thoughts are taken into account.

Examples from everyday life:

- one only reads newspapers consistent with one's own opinion.
- one avoids contact with people who think differently instead of discussing opposing views with them.

This might lead to one-sided attitudes and even foster incorrect judgments.



# Exercise

- Three pictures illustrating a scenario will be shown to you, along with various interpretations.





## Exercise

- Three pictures illustrating a scenario will be shown to you, along with various interpretations.
- The pictures are shown in reverse order, the final event being shown first.



## Exercise

- Three pictures illustrating a scenario will be shown to you, along with various interpretations.
- The pictures are shown in reverse order, the final event being shown first.
- After each picture is shown, you will be asked to rate the plausibility or likelihood of each of the suggested interpretations. These have to be reassessed each time a new picture is revealed for that scenario.



## Exercise

- Three pictures illustrating a scenario will be shown to you, along with various interpretations.
- The pictures are shown in reverse order, the final event being shown first.
- After each picture is shown, you will be asked to rate the plausibility or likelihood of each of the suggested interpretations. These have to be reassessed each time a new picture is revealed for that scenario.
- Please discuss with the group how confident you are in your rating.



# What might have happened?



3



# How probable do you find each option?



3

1. The man is a shark hunter and has just killed a shark.
2. The man is doing research on sharks.
3. The man is testing his new shark style surfboard.
4. The man just scared everyone away with a fake shark head.



## Has your judgement changed with the new picture?



2



3

1. The man is a shark hunter and has just killed a shark.
2. The man is doing research on sharks.
3. The man is testing his new shark style surfboard.
4. The man just scared everyone away with a fake shark head.



# Please re-rate the probability!



1



2



3

1. The man is a shark hunter and has just killed a shark.
2. The man is doing research on sharks.
3. The man is testing his new shark style surfboard.
4. The man just scared everyone away with a fake shark head.



1



2



3

1. The man is a shark hunter and has just killed a shark.
2. The man is doing research on sharks.
3. The man is testing his new shark style surfboard.
4. The man just scared everyone away with a fake shark head.





# How probable do you find each option?



3

1. The conductor is tense because he arrived late for rehearsal.
2. The conductor has just yelled at the man in the front row because he was singing out of tune.
3. The girl in the front row just told the man next to her that she has a crush on the conductor.
4. The conductor is nervous because he cannot find his baton.



# Has your judgement changed with the new picture?



1. The conductor is tense because he arrived late for rehearsal.
2. The conductor has just yelled at the man in the front row because he was singing out of tune.
3. The girl in the front row just told the man next to her that she has a crush on the conductor.
4. The conductor is nervous because he cannot find his baton.



# Please re-rate the probability!



1. The conductor is tense because he arrived late for rehearsal.
2. The conductor has just yelled at the man in the front row because he was singing out of tune.
3. The girl in the front row just told the man next to her that she has a crush on the conductor.
4. The conductor is nervous because he cannot find his baton.



1



2



3

1. The conductor is tense because he arrived late for rehearsal.
2. The conductor has just yelled at the man in the front row because he was singing out of tune.
3. The girl in the front row just told the man next to her that she has a crush on the conductor.
4. The conductor is nervous because he cannot find his baton.



# How probable do you find each option?

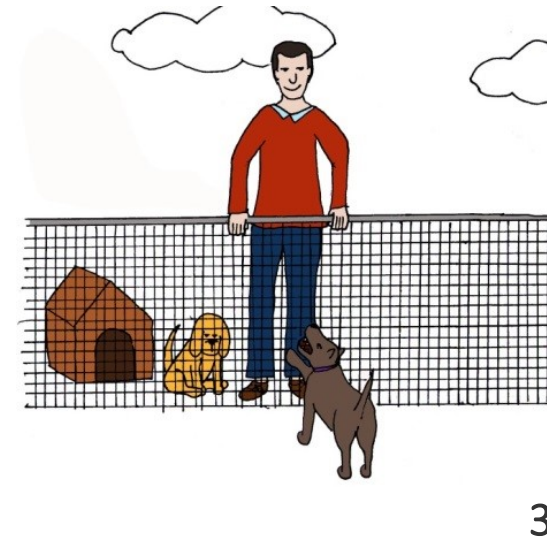
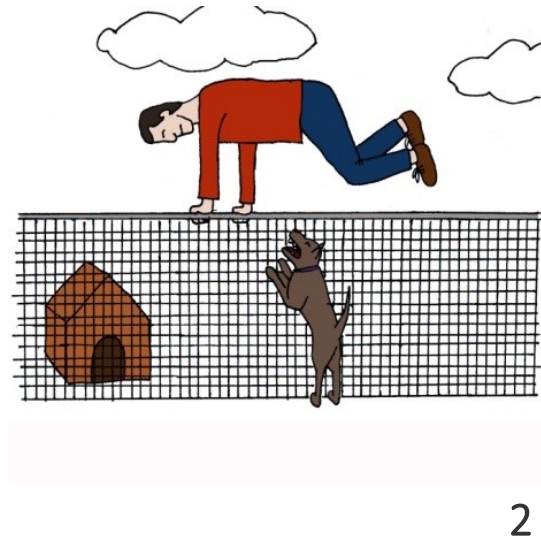


3

1. The man has just built a fence for his dog.
2. The man is buying a guard dog.
3. The man has just escaped from the barking dog.
4. The man is playing with his neighbor's dog.



# Has your judgement changed with the new picture?



1. The man has just built a fence for his dog.
2. The man is buying a guard dog.
3. The man has just escaped from the barking dog.
4. The man is playing with his neighbor's dog.



# Please re-rate the probability!



1



2



3

1. The man has just built a fence for his dog.
2. The man is buying a guard dog.
3. The man has just escaped from the barking dog.
4. The man is playing with his neighbor's dog.



1



2



3

1. The man has just built a fence for his dog.
2. The man is buying a guard dog.
3. The man has just escaped from the barking dog.
4. The man is playing with his neighbor's dog.





## How probable do you find each option?



3

1. The woman is going to sell her clothes to a second hand shop.
2. The woman is going for a walk on a nice spring day.
3. The woman has just finished doing her laundry at a laundromat.
4. The woman is taking out the garbage.



## Has your judgement changed with the new picture?



2



3

1. The woman is going to sell her clothes to a second hand shop.
2. The woman is going for a walk on a nice spring day.
3. The woman has just finished doing her laundry at a laundromat.
4. The woman is taking out the garbage.



# Please re-rate the probability!



1



2



3

1. The woman is going to sell her clothes to a second hand shop.
2. The woman is going for a walk on a nice spring day.
3. The woman has just finished doing her laundry at a laundromat.
4. The woman is taking out the garbage.



1



2

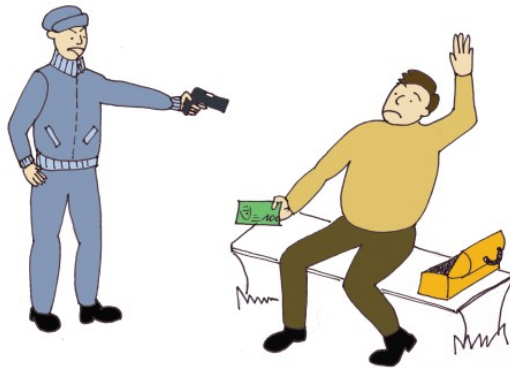


3

1. The woman is going to sell her clothes to a second hand shop.
2. The woman is going for a walk on a nice spring day.
3. The woman has just finished doing her laundry at a laundromat.
4. The woman is taking out the garbage.



# How probable do you find each option?



3

1. The man on the left is robbing the other man.
2. The man is giving his friend a chocolate gun.
3. The man on the left is asking the other man if he lost a gun.
4. The man on the left is playing “cops and robbers” with his friend.



# Has your judgement changed with the new picture?



2

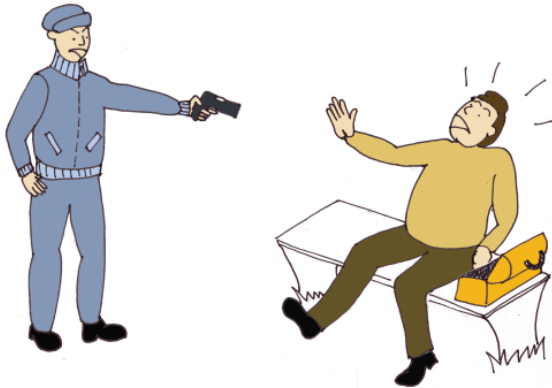


3

1. The man on the left is robbing the other man.
2. The man is giving his friend a chocolate gun.
3. The man on the left is asking the other man if he lost a gun.
4. The man on the left is playing “cops and robbers” with his friend.



# Please re-rate the probability!



1

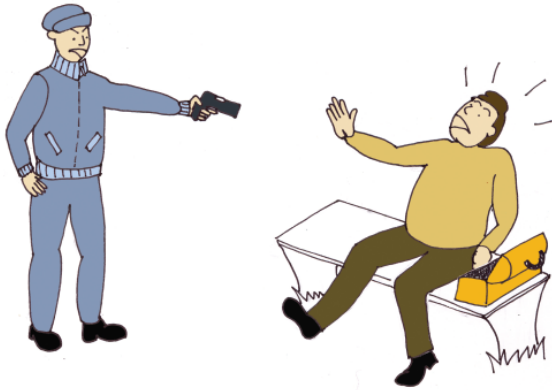


2



3

1. The man on the left is robbing the other man.
2. The man is giving his friend a chocolate gun.
3. The man on the left is asking the other man if he lost a gun.
4. The man on the left is playing “cops and robbers” with his friend.



1



2



3

1. The man on the left is robbing the other man.
2. The man is giving his friend a chocolate gun.
3. The man on the left is asking the other man if he lost a gun.
4. The man on the left is playing “cops and robbers” with his friend.





## Optional: Videoclip

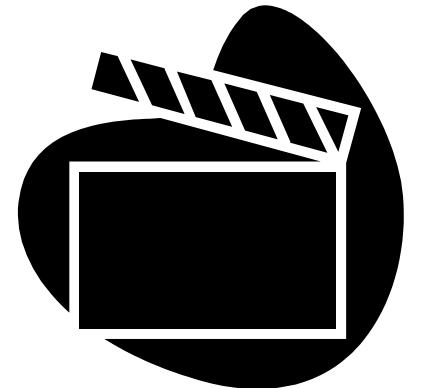
Video clip presentations that address today's topic are available at the following web site:

[http://www.uke.de/mct\\_videos](http://www.uke.de/mct_videos)

After the video, you may discuss how it is related to today's topic.

*[for trainers:*

Some movie clips contain language that may not be appropriate for all audiences and across all cultures. Please carefully pre-screen videos before showing]





# How probable do you find each option?



3

1. The father laughs because his daughter went swimming fully clothed.
2. The father punished his daughter by sending her outside without an umbrella.
3. The girl is sweating because she is late and worries about being punished.
4. Against her father's advice, the girl left the house without an umbrella.



## Has your judgement changed with the new picture?



2



3

1. The father laughs because his daughter went swimming fully clothed.
2. The father punished his daughter by sending her outside without an umbrella.
3. The girl is sweating because she is late and worries about being punished.
4. Against her father's advice, the girl left the house without an umbrella.



# Please re-rate the probability!



1



2



3

1. The father laughs because his daughter went swimming fully clothed.
2. The father punished his daughter by sending her outside without an umbrella.
3. The girl is sweating because she is late and worries about being punished.
4. Against her father's advice, the girl left the house without an umbrella.



1



2



3

1. The father laughs because his daughter went swimming fully clothed.
2. The father punished his daughter by sending her outside without an umbrella.
3. The girl is sweating because she is late and worries about being punished.
4. Against her father's advice, the girl left the house without an umbrella.



# How probable do you find each option?



3

1. The diver is looking for the king's jewels that dropped into the water.
2. The diver hooks fish onto the king's fishing rod so that the king enjoys fishing.
3. The king called his servant to carry the basket of fish.
4. The king supervises the diver's expedition to the bottom of the sea.



# Has your judgement changed with the new picture?



2



3

1. The diver is looking for the king's jewels that dropped into the water.
2. The diver hooks fish onto the king's fishing rod so that the king enjoys fishing.
3. The king called his servant to carry the basket of fish.
4. The king supervises the diver's expedition to the bottom of the sea.



# Please re-rate the probability!



1



2



3

1. The diver is looking for the king's jewels that dropped into the water.
2. The diver hooks fish onto the king's fishing rod so that the king enjoys fishing.
3. The king called his servant to carry the basket of fish.
4. The king supervises the diver's expedition to the bottom of the sea.





1



2



3

1. The diver is looking for the king's jewels that dropped into the water.
2. The diver hooks fish onto the king's fishing rod so that the king enjoys fishing.
3. The king called his servant to carry the basket of fish.
4. The king supervises the diver's expedition to the bottom of the sea.



# How probable do you find each option?



3

1. The man has just introduced his son to a neighbor.
2. The friends say good-bye after a joint holiday camp.
3. The man asks the boys to reconcile after a quarrel.
4. The man wants to walk on the pavement but the boys obstruct his way.



# Has your judgement changed with the new picture?



2



3

1. The man has just introduced his son to a neighbor.
2. The friends say good-bye after a joint holiday camp.
3. The man asks the boys to reconcile after a quarrel.
4. The man wants to walk on the pavement but the boys obstruct his way.



# Please re-rate the probability!



1



2



3

1. The man has just introduced his son to a neighbor.
2. The friends say good-bye after a joint holiday camp.
3. The man asks the boys to reconcile after a quarrel.
4. The man wants to walk on the pavement but the boys obstruct his way.



1



2



3

1. The man has just introduced his son to a neighbor.
2. The friends say good-bye after a joint holiday camp.
3. The man asks the boys to reconcile after a quarrel.
4. The man wants to walk on the pavement but the boys obstruct his way.



## How probable do you find each option?



3

1. The serenade of the young man has disturbed his girl-friend's father.
2. The young man is on his way to a band rehearsal.
3. The young man has just played a little song for his father's birthday.
4. The street musician is angry because he got no money for his last song.



## Has your judgement changed with the new picture?



2



3

1. The serenade of the young man has disturbed his girl-friend's father.
2. The young man is on his way to a band rehearsal.
3. The young man has just played a little song for his father's birthday.
4. The street musician is angry because he got no money for his last song.



# Please re-rate the probability!



1



2



3

1. The serenade of the young man has disturbed his girl-friend's father.
2. The young man is on his way to a band rehearsal.
3. The young man has just played a little song for his father's birthday.
4. The street musician is angry because he got no money for his last song.





1



2



3

1. The serenade of the young man has disturbed his girl-friend's father.
2. The young man is on his way to a band rehearsal.
3. The young man has just played a little song for his father's birthday.
4. The street musician is angry because he got no money for his last song.



## How probable do you find each option?



3

1. The man is an undercover cop spying on someone through the window.
2. The man is fixing a crack on his house.
3. The man is washing his old dirty house.
4. The man has just built a house and is now painting it.



## Has your judgement changed with the new picture?



2

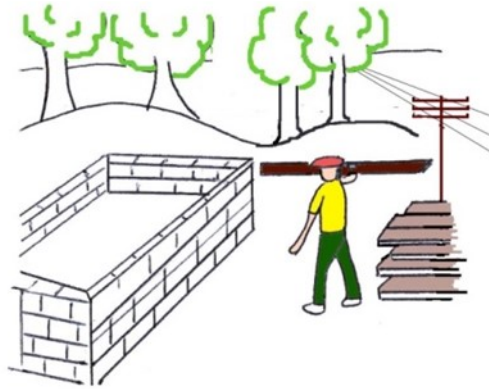


3

1. The man is an undercover cop spying on someone through the window.
2. The man is fixing a crack on his house.
3. The man is washing his old dirty house.
4. The man has just built a house and is now painting it.



# Please re-rate the probability!



1

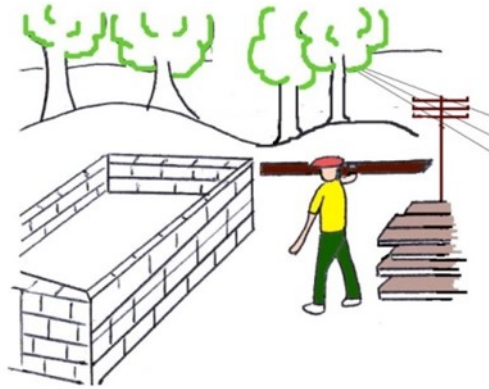


2



3

1. The man is an undercover cop spying on someone through the window.
2. The man is fixing a crack on his house.
3. The man is washing his old dirty house.
4. The man has just built a house and is now painting it.



1



2



3

1. The man is an undercover cop spying on someone through the window.
2. The man is fixing a crack on his house.
3. The man is washing his old dirty house.
4. The man has just built a house and is now painting it.



# Transfer to everyday life

## Learning Objectives:

- Sometimes, events turn out very differently than expected: Quick decisions often lead to wrong conclusions.



# Transfer to everyday life

## Learning Objectives:

- Sometimes, events turn out very differently than expected: Quick decisions often lead to wrong conclusions.
- You should always consider different interpretations/hypotheses and adjust your beliefs accordingly.



# Transfer to everyday life

## Learning Objectives:

- Sometimes, events turn out very differently than expected: Quick decisions often lead to wrong conclusions.
- You should always consider different interpretations/hypotheses and adjust your beliefs accordingly.
- Seek as much information as possible to verify your judgment.





## What does this have to do with psychosis?

During psychosis, people may maintain false beliefs and ignore counterarguments. In some cases, this may have dramatic consequences.



## What does this have to do with psychosis?

During psychosis, people may maintain false beliefs and ignore counterarguments. In some cases, this may have dramatic consequences.

**Example:** Latisha slashes her colleague's tires!

**Background:** Latisha feels harassed.

**But:** Although some colleagues had really made snide remarks about Latisha, she had lumped them together and got completely involved in her conspiracy theory. She over-looked that some colleagues had behaved perfectly fairly towards her.



# What does this have to do with psychosis?

During psychosis, people may maintain false beliefs and ignore counterarguments. In some cases, this may have dramatic consequences.

**Example:** Latisha slashes her colleague's tires!

**Background:** Latisha feels harassed.

**But:** Although some colleagues had really made snide remarks about Latisha, she had lumped them together and got completely involved in her conspiracy theory. She over-looked that some colleagues had behaved perfectly fairly towards her.

It is difficult to keep one's cool when feeling threatened. So, be cautious about your judgments and ask people you trust for advice!



# Thank you for your attention!

*for trainers:*

Please hand out worksheets. Introduce our app COGITO (download free of charge).



[www.uke.de/mct\\_app](http://www.uke.de/mct_app)





Pictures used in this module are reproduced with indirect (creative commons license) or direct permission of the artists listed below, for which we would like to express our gratitude! A full list can be obtained via [www.uke.de/mct](http://www.uke.de/mct). If we have involuntarily breached copyright, please accept our apologies. In this case, we kindly ask creators for their permission to use their work under the "fair use" policy.

Die in diesem Modul verwendeten Bilder wurden mit der indirekten (creative commons Lizenz) oder direkten Zustimmung der untenstehenden Künstler reproduziert, wofür wir uns herzlich bedanken möchten! Eine vollständige Liste ist hinterlegt auf [www.uke.de/mkt](http://www.uke.de/mkt). Sollten wir unbeabsichtigt gegen das Urheberrecht verstoßen haben, so bitten wir dies vielmals zu entschuldigen und bitten nachträglich um die Verwendungserlaubnis.

Name Photographer/Artist Name Fotograf/Künstler	Source/ Quelle	Picture Name/ Name des Bildes	CC = used with corresponding creative commons license; PP = used with personal permission of artist CC = genutzt unter creative commons Lizenz, PP = verwendet mit persönlicher Zustimmung des Künstlers	Description/Kurzbeschreibung
*madalena-pestana* ( Tired of rules)	Flickr.com	after the flowers, the fruits - I	CC	Prune/Pflaumen
ian_ransley	Flickr.com	Bananas	CC	Bananas/Bananen
mattisas	Flickr.com	Strawberrys	CC	Strawberries/Erdbeeren
adactio	Flickr.com	Bread	CC	Bread/Brot
jot.punkt	Flickr.com	spaghettibombe	CC	Noodles/Nudeln
Ayelle	Flickr.com	Juice bubbles	CC	Orange juice/Orangensaft
Benny-Kristin Fischer	---	---	Produced for the MCT/Anfertigung für das MKT; © Arbeitsgruppe Neuropsychologie	Various picture sequences shark, choir, laundry, robbery, rain, king, toy car, musician, construction of house, some motives are adapted from the Wechsler Intelligence Scale/Verschiedene Bildersequenzen Haikopf, Chor, Wäscherei, Überfall, Regenwetter, König, Spielzeugauto, Musiker, Hausbau, einige Motive sind angelehnt an Aufgaben des Wechsler Intelligenztests
Janne Hottenrott	---	---	Produced for the MCT/Anfertigung für das MKT; © Arbeitsgruppe Neuropsychologie	Picture sequence neighbour's dog is adapted from the Wechsler Intelligence Scale/Bildersequenz Nachbar's Hund, Motiv ist angelehnt an Aufgaben des Wechsler Intelligenztests