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HELP

Order and Item information in Person Memory

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introduction

impression formation
memory for serial order
paradigm

experiment 1

design / results / discussion

experiment 2

design / results / discussion

experiment 3

design / results / discussion

experiment 4

design / results / discussion

experiment 5

design / results / discussion

experiment 6

design / results / discussion

general discussion

Why do we care about **order**?

- Is it because we are very authoritarian people (especially Leonel)?

- Is it because I have a crappy memory and somehow we have this strange belief that by studying something we get better at it?

- Is it because we are in search for the meaning of life?

Why do we care about **order**?

Actually...

Why do we care about **order**?

Actually... we don't!

Why do we care about **order**?

Well, we think that the way people perceive information, namely the order in which information is encoded - or events take place -, will play an important role in the way people extract meaning from the social world.

We argue that when people form impressions about others, the order in which the information is perceived will be crucial for the representation being built about the target person.

introduction

person memory
impression formation

human memory
memory for serial order

order in person memory

introduction

person memory: impression formation

Impression - cognitive representation of someone:

- coherent

- at encoding: each new item is integrated with the items previously encoded in the emergent impression

- network of inter-item associations

- better organization leads to better recall (free recall)

introduction

person memory: the case of the semantic/episodic distinction

semantic memory: general knowledge that people have about the world

episodic memory: information about specific experiences defined in time and context

Incongruency effect explanation according to the **semantic/episodic framework** (Almeida, 2006):

- **congruent items** will be encoded in terms of the **semantic fit** with the activated expectancy – they are easily assimilated into the person impression (high conceptual fluency –> conceptual encoding)

- **incongruent items** are semantically unfit and, therefore, will incur in additional processing – **episodic encoding** (low conceptual fluency –> perceptual encoding)

introduction

human memory: item information ≠ order information

P E L H

introduction

human memory: item information ≠ order information

P	E	L	H
E	P	H	L
H	E	L	P
L	P	E	H

introduction

human memory: item information ≠ order information

P E L H

E P H L

H E L P

L P E H

time

instructions | **stimuli** | **filler task** | **recall** | **dependent measures**

instructions | **stimuli** | **filler task** | **recall** | **dependent measures**

Impression Formation instructions

or

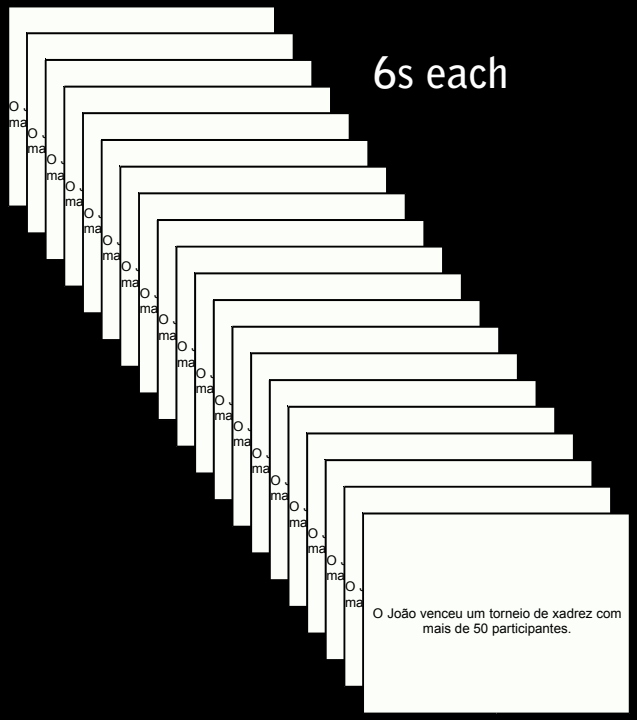
Memory instructions

time

instructions | **stimuli** | **filler task** | **recall** | **dependent measures**

18-24 behaviors (randomly)

Impression Formation instructions



or

Memory instructions

time

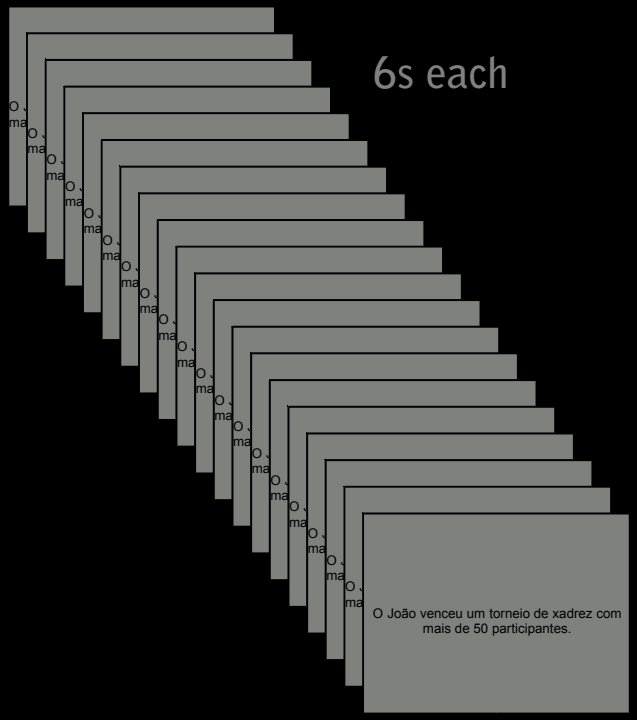
instructions | **stimuli** | **filler task** | **recall** | **dependent measures**

18-24 behaviors (randomly)

Impression Formation instructions

or

Memory instructions



6s each

Math Problems

6m

time

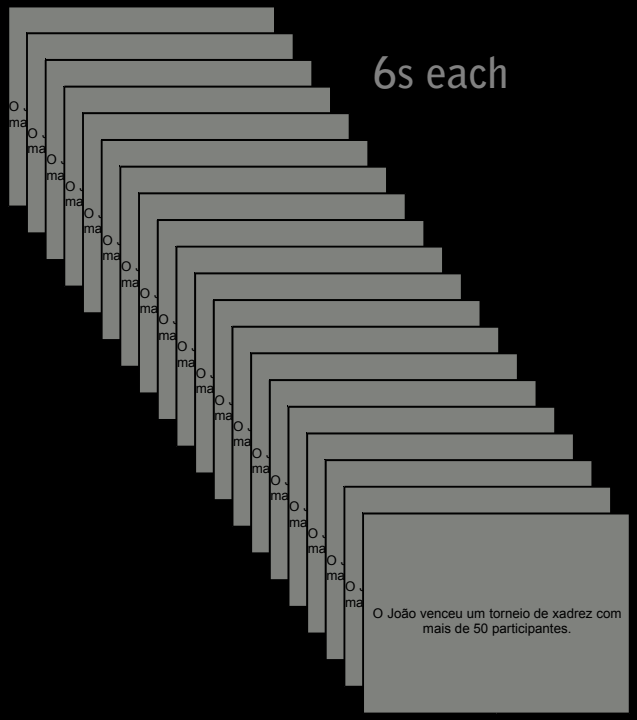
instructions | **stimuli** | **filler task** | **recall** | **dependent measures**

18-24 behaviors (randomly)

Impression Formation instructions

or

Memory instructions



6s each

Math Problems

6m

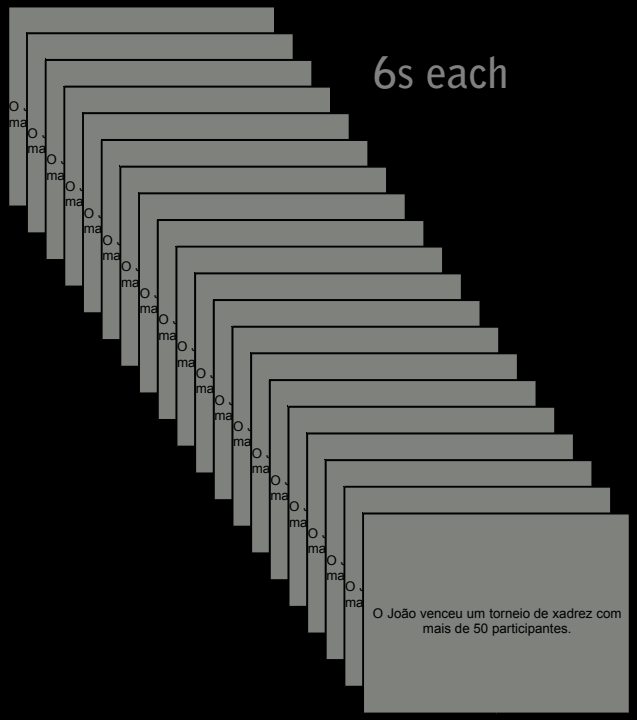
Free Recall

or

Ordered Recall

time

instructions	stimuli	filler task	recall	dependent measures
Impression Formation instructions	18-24 behaviors (randomly)	Math Problems	**Free Recall**	memory for the **ITEM**
or	6s each	6m	or	and
Memory instructions			**Ordered Recall**	memory for the **ORDER**



experiment 1

design:

experiment 1

design:

2 processing goals:

- impression formation
- vs.
- memorization of order

x

2 recall:

- free recall
- vs.
- ordered recall

experiment 1

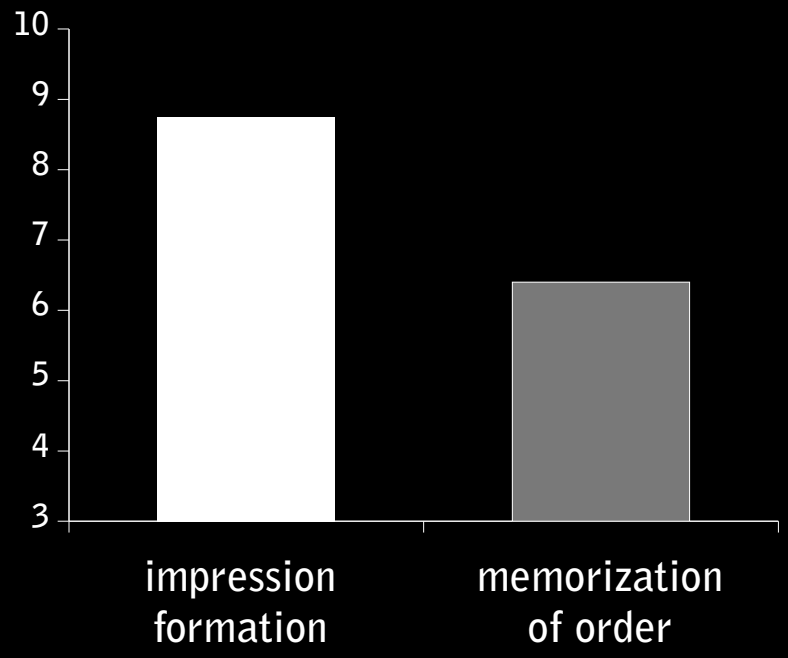
results:

VD item: # items recalled

experiment 1

results:

VD item: # items recalled



F(1,99)=16,35; p<,00

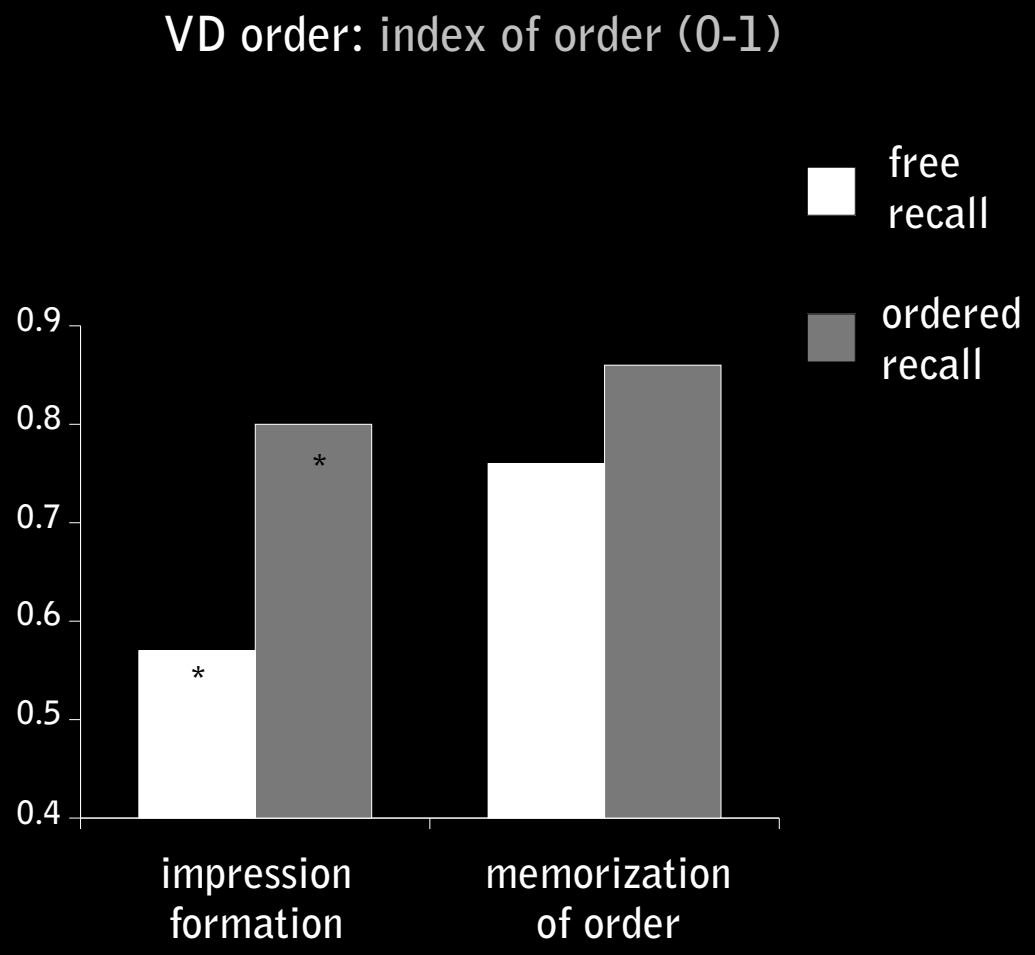
experiment 1

results:

VD order: index of order (0-1)

experiment 1

results:



F(1,99)=2,62; p<,11

* t(99)=12,38; p<,00

experiment 1

discussion:

item information

1 – impression formation results in better recall of item information

order information

1 – impression formation keeps track of order information

- but participants only recall the information in a way that resembles the sequence in which the information was presented if they were specifically asked to so

- spontaneously, people don't recall information from memory using order

experiment 2

design:

experiment 2

design:

2 processing goals:

- impression formation

vs.

- memorization of order

x

2 recall:

- cued recall: **trait**

vs.

- cued recall: **day**

experiment 2

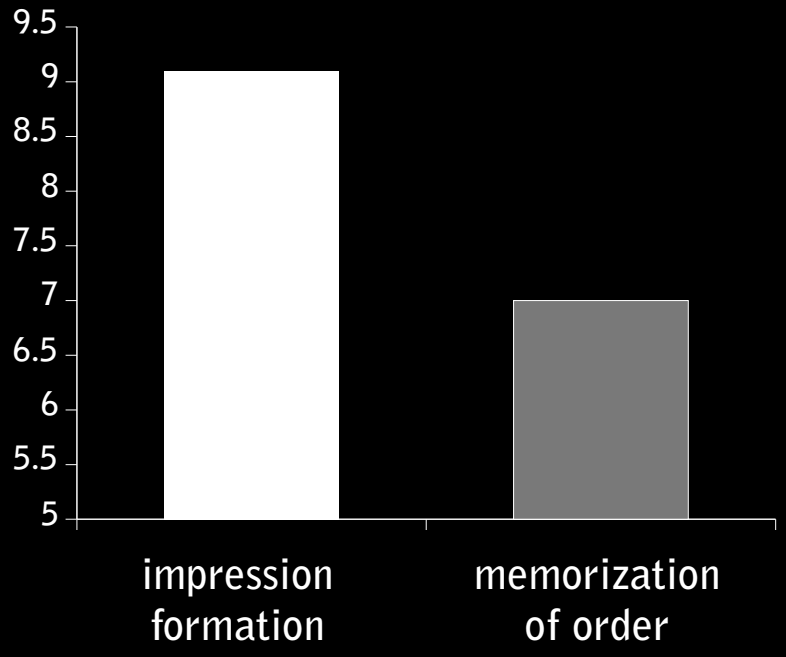
results:

VD item: # items recalled

experiment 2

results:

VD item: # items recalled

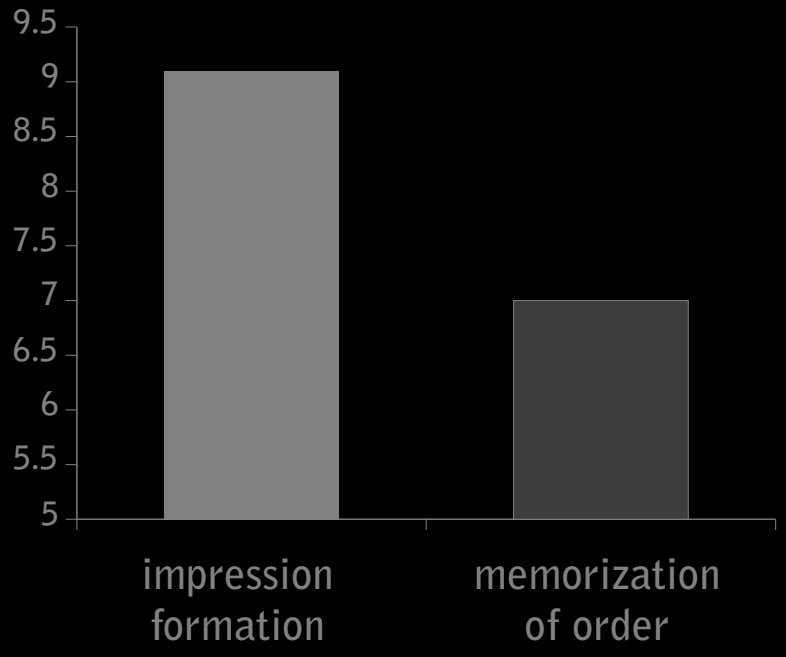


F(1,106)=17,61; p<,00

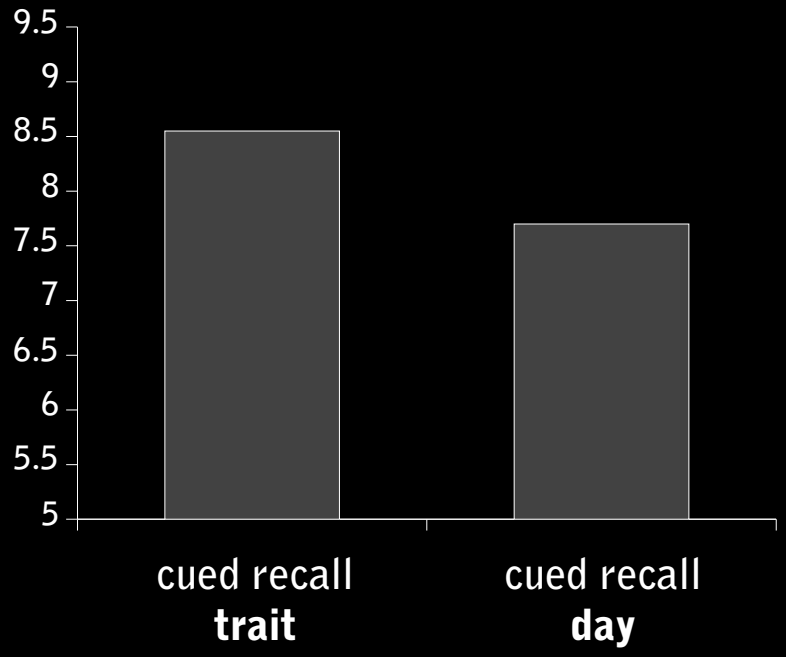
experiment 2

results:

VD item: # items recalled



F(1,106)=17,61; p<,00



F(1,106)=3,25; p<,07

experiment 2

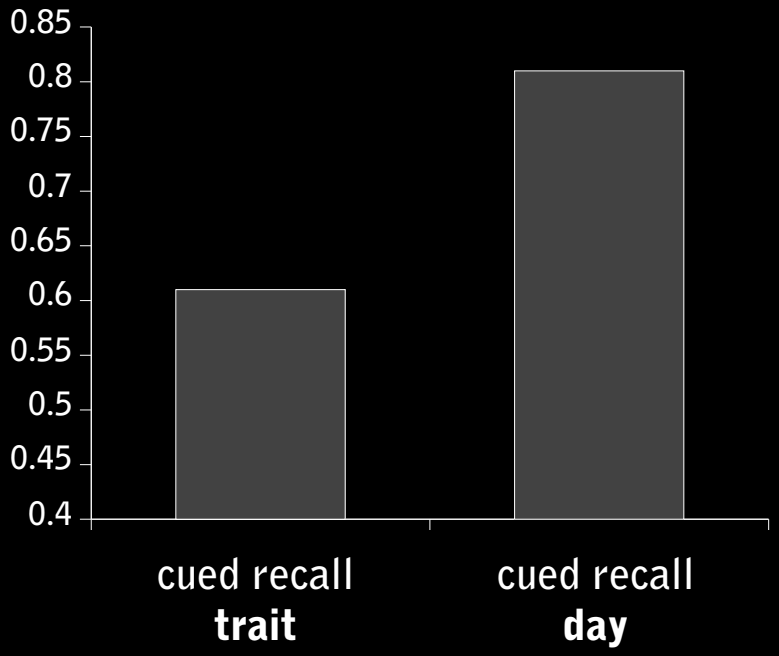
results:

VD order: index of order (0-1)

experiment 2

results:

VD order: index of order (0-1)

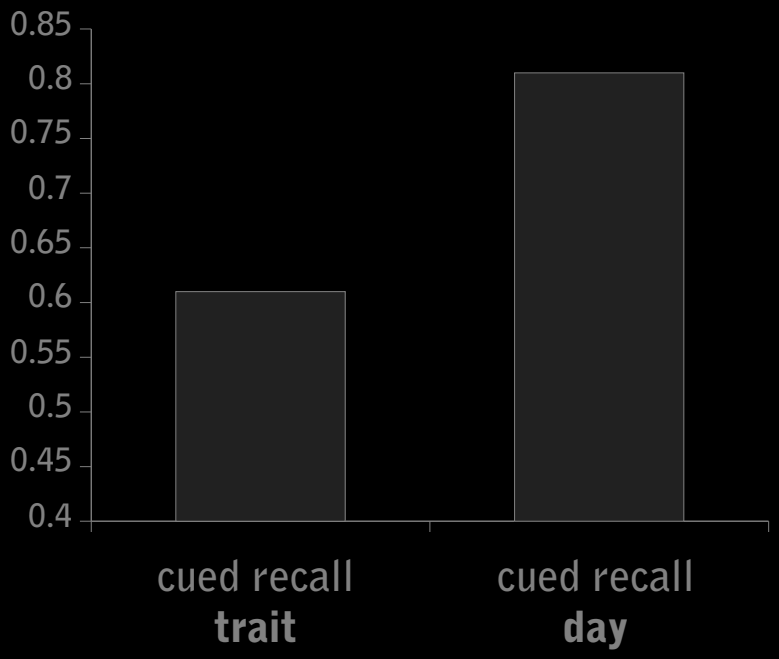


F(1,106)=26,28; p<,00

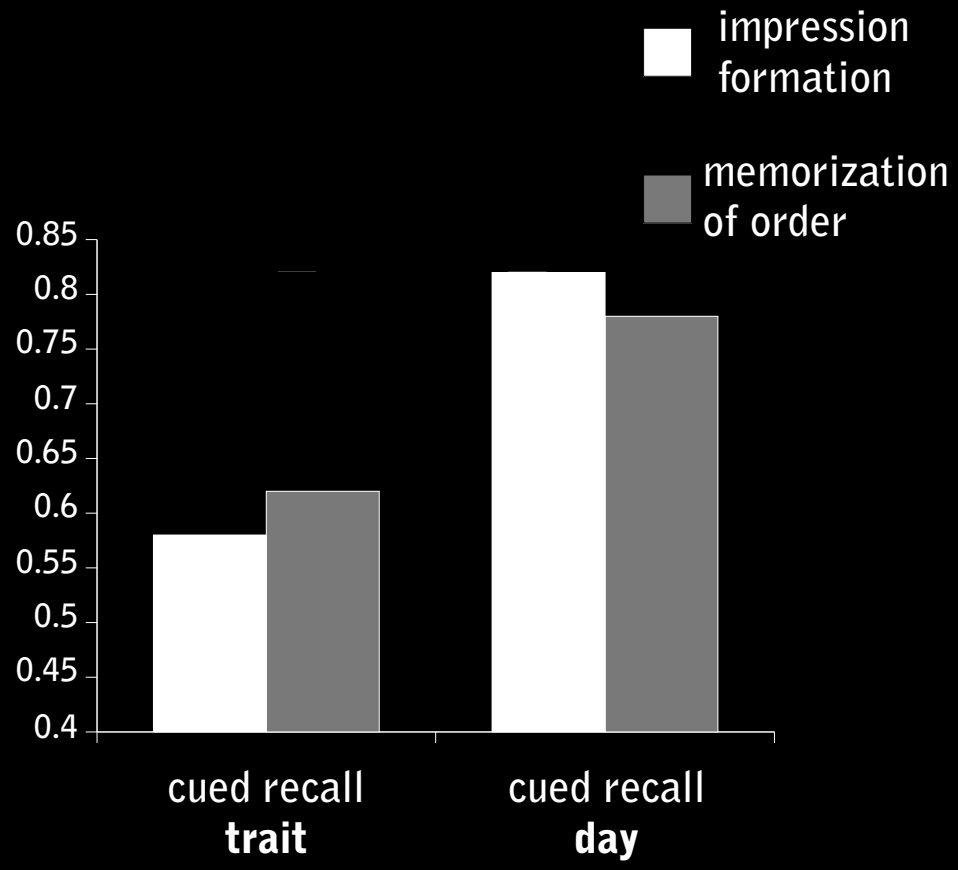
experiment 2

results:

VD order: index of order (0-1)



F(1,106)=26,28; p<,00



F(1,106)=4,17; p<,04

experiment 2

discussion:

item information

1 – impression formation results in better recall of item information

2 – providing participants with traits as recall cues facilitates the recall of item information

order information

1 – providing participants with the days of the week in which the behaviors were performed facilitates the memory for order

experiment 3

design:

experiment 3

design:

2 processing goals: impression formation
vs.
memorization of order

x

2 expectancy: intelligent vs. friendly vs. stupid vs. unfriendly

x

2 list: **congruent** vs. **incongruent**

x

2 recall: free recall
vs.
ordered recall

experiment 3

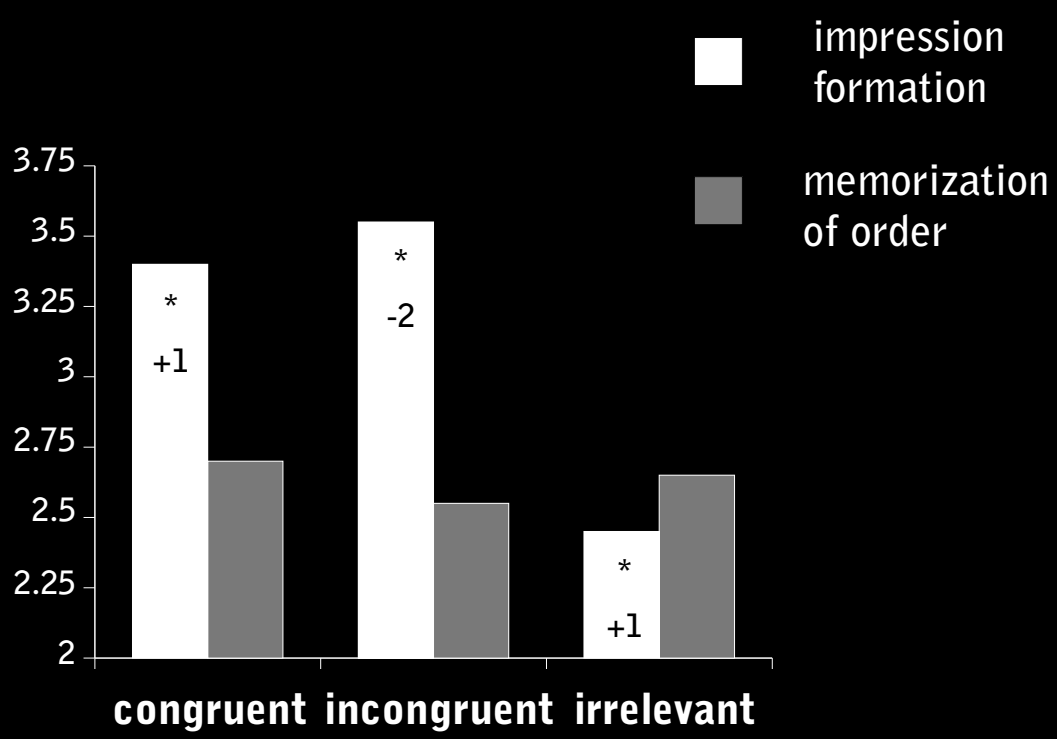
results:

VD item: # items recalled

experiment 3

results:

VD item: # items recalled



F(2,150)=6,39; p<,00

* t(75)=6,13; p<,02

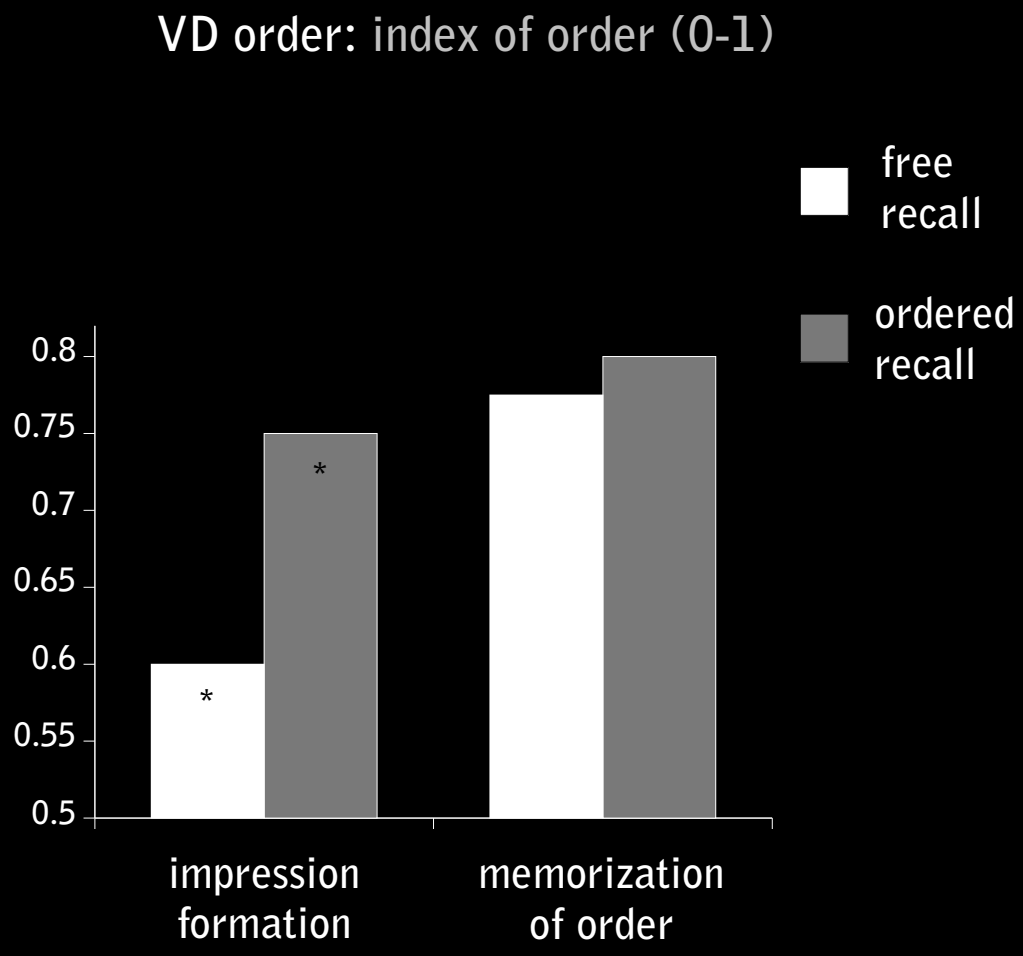
experiment 3

results:

VD order: index of order (0-1)

experiment 3

results:



F(1,169)=5,19; p<,02

experiment 3

discussion:

item information

1 – impression formation results in better recall of item information

2 – incongruency effect – incongruent items are better recalled than congruent and irrelevant items

order information

1 – impression formation keeps track of order information

- participants only recall the information in an ordered way if they were specifically asked to so, they don't do it spontaneously

2 – increasing the density of the network of inter-item associations
- incongruency effect – doesn't affect memory for the order

experiment 4

design:

experiment 4

design:

2 processing goals: impression formation

vs.

memorization of order

x

2 directed forgetting: remember

vs.

forget

x

2 recall: free recall

vs.

ordered recall

experiment 4

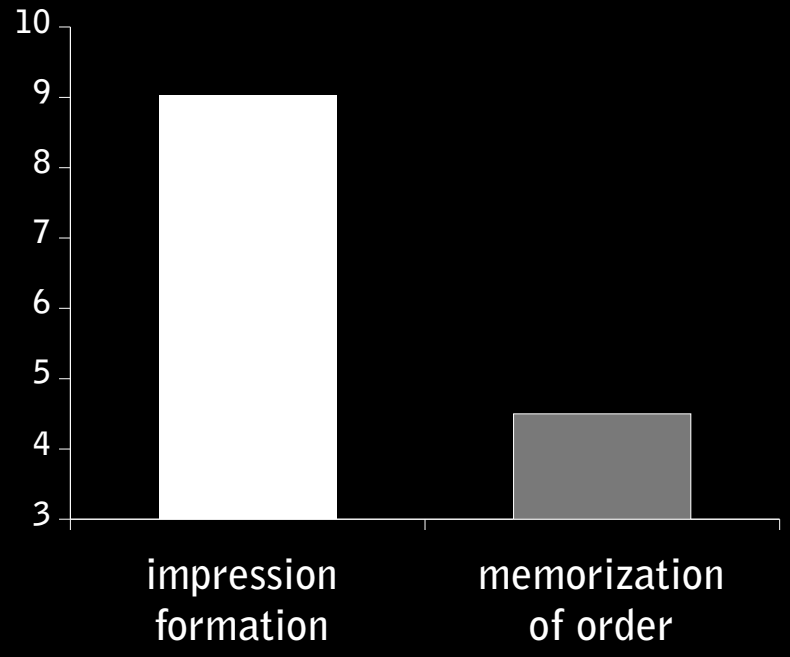
results:

VD item: # items recalled

experiment 4

results:

VD item: # items recalled

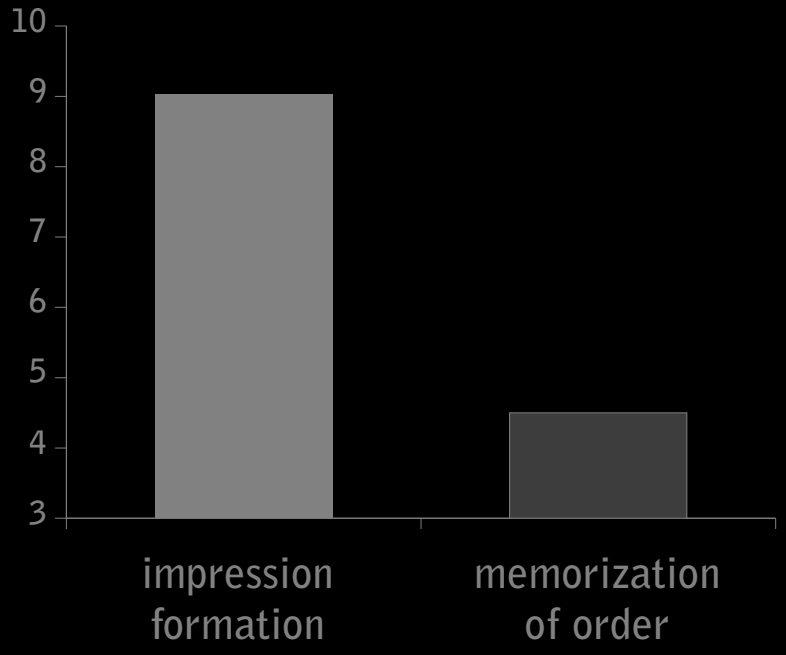


F(1,168)=92,86; p<,000

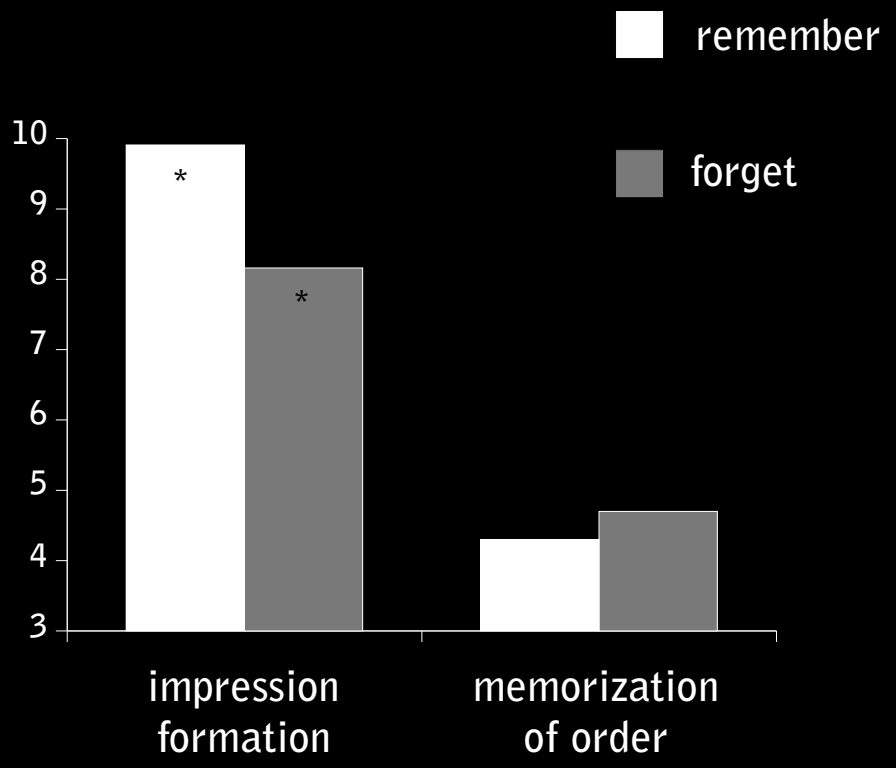
experiment 4

results:

VD item: # items recalled



F(1,168)=92,86; p<,000



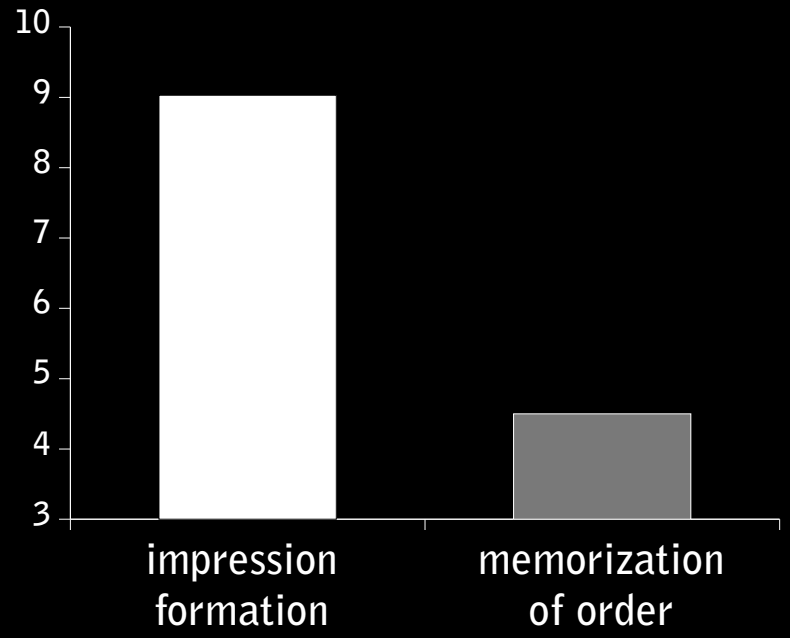
F(1,168)=5,25; p<,023

* t(168)=2,65; p<,004

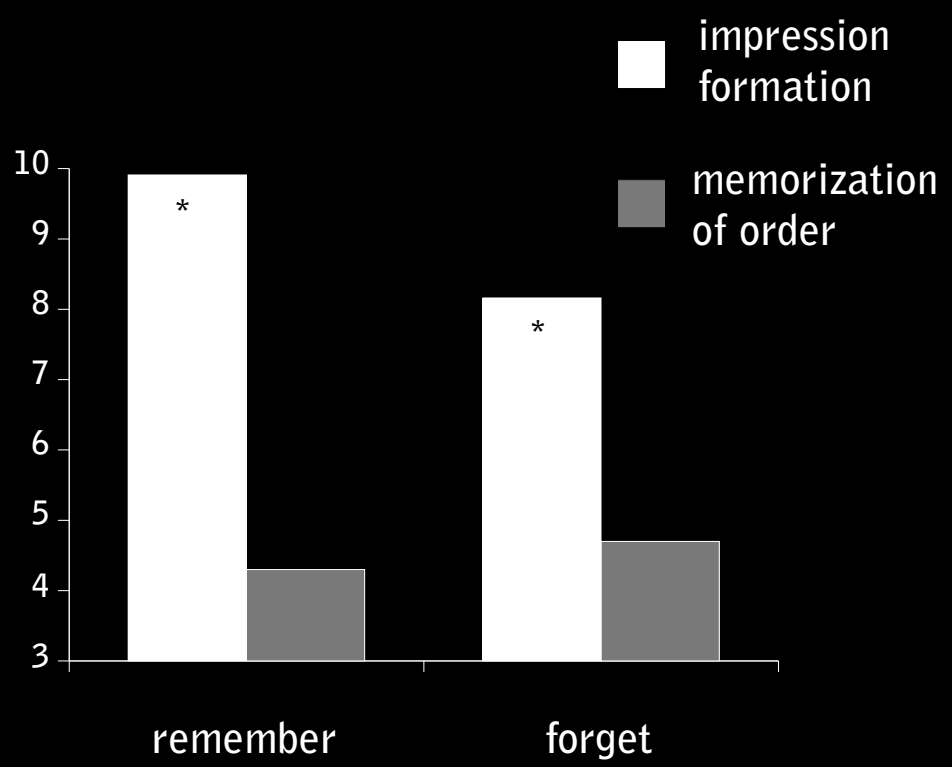
experiment 4

results:

VD item: # items recalled



F(1,168)=92,86; p<,000



F(1,168)=5,25; p<,023

* t(168)=2,65; p<,004

experiment 4

results:

VD order: index of order (0-1)

experiment 4

results:

VD order: index of order (0-1)

F(1,168)=3,79; p<,053

experiment 4

results:

VD order: index of order (0-1)

F(1,168)=3,79; p<,053

F(1,168)=2,70; p<,102

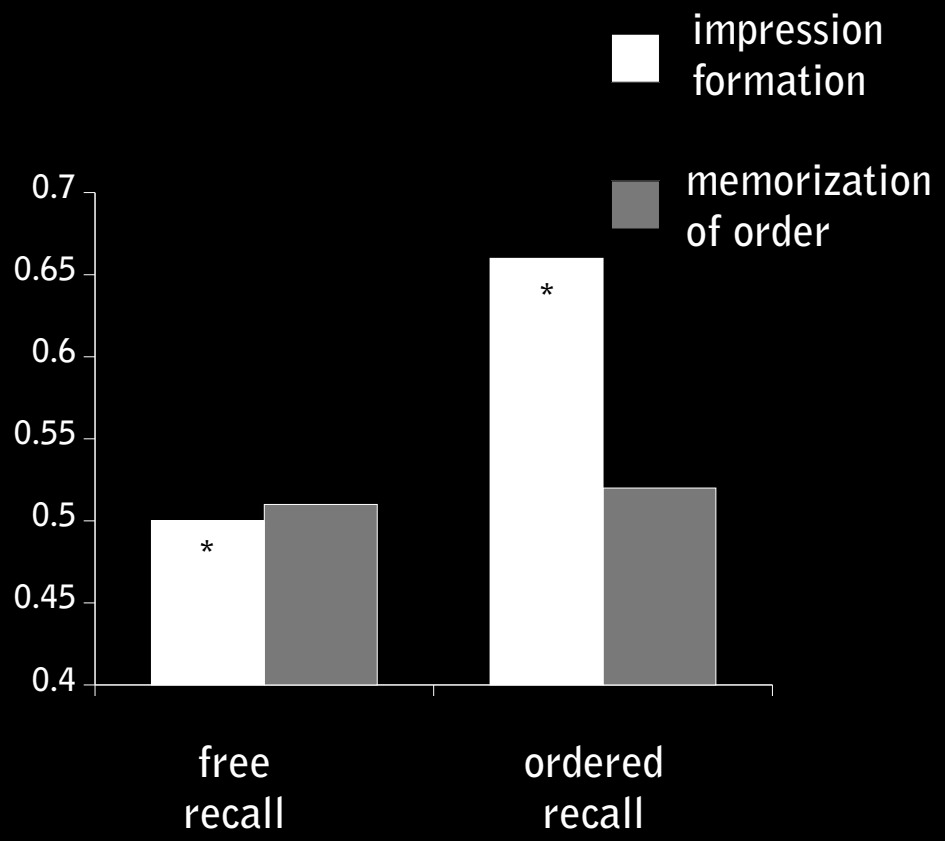
* t(168)=2,55; p<,006

experiment 4

results:

VD order: index of order (0-1)

F(1,168)=3,79; p<,053



F(1,168)=2,70; p<,102

* t(168)=2,55; p<,006

experiment 4

discussion:

item information

1 – impression formation results in better recall of item information

2 – the directed forgetting paradigm affected the ability to recall item information – episodic memory

- item information was sensitive (in the IF conditions) to a manipulation that is known to interfere with episodic memory (and not with semantic memory)

order information

1 – impression formation keeps track of order information

- participants only recall the information in an ordered way if they were specifically asked to so, they don't do it spontaneously

2 – memory for order information was not affected by the directed forgetting manipulation – semantic memory

experiment 4

design:

2 processing goals: **impression formation**

vs.

memorization of order

X

2 directed forgetting: **remember**

vs.

forget

X

2 recall: **free recall**

vs.

ordered recall

experiment 5

design:

experiment 5

design:

3 processing goals:
- impression formation
- vs.
- memorization of order
- vs.
- counting vowels – E's

x

2 recall:
- free recall
- vs.
- ordered recall

experiment 5

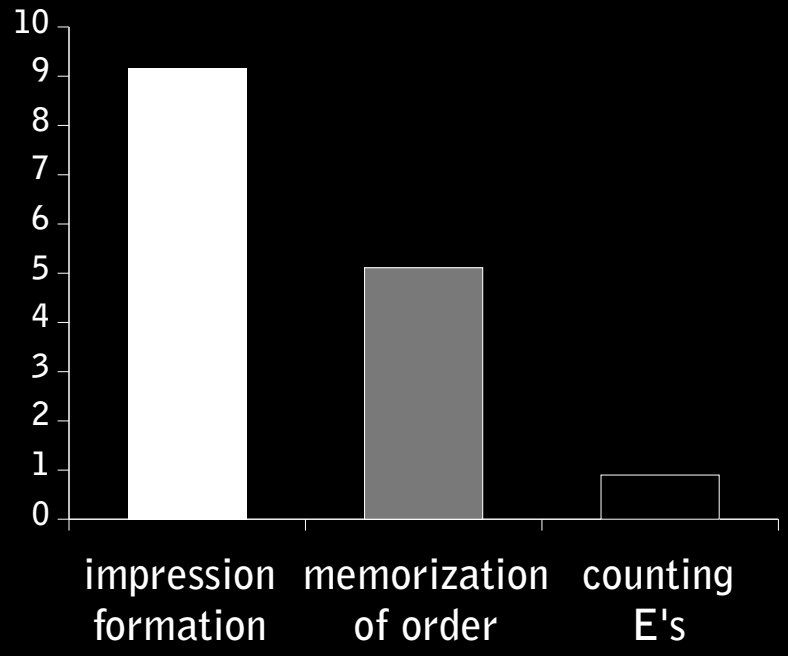
results:

VD item: # items recalled

experiment 5

results:

VD item: # items recalled



F(2,112)=143,67; p<,000

experiment 5

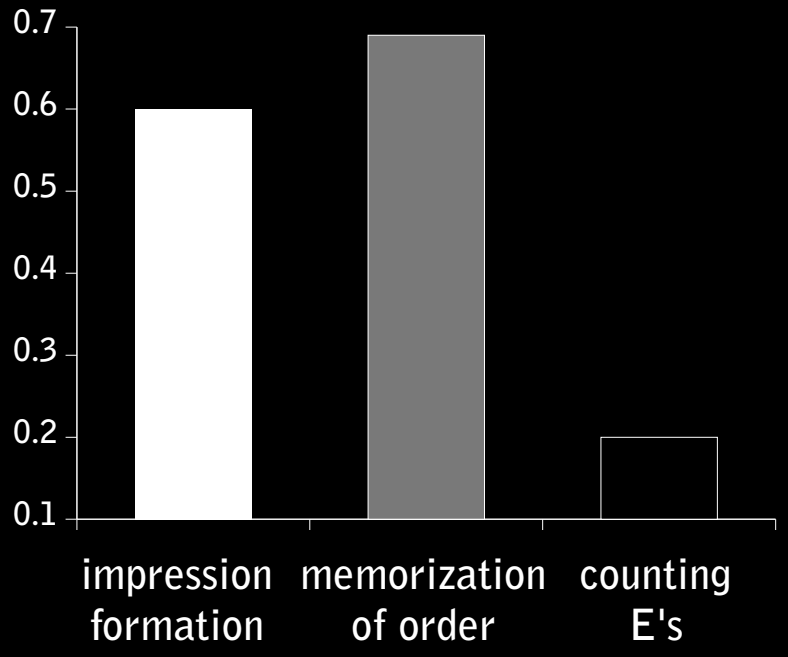
results:

VD order: index of order (0-1)

experiment 5

results:

VD order: index of order (0-1)

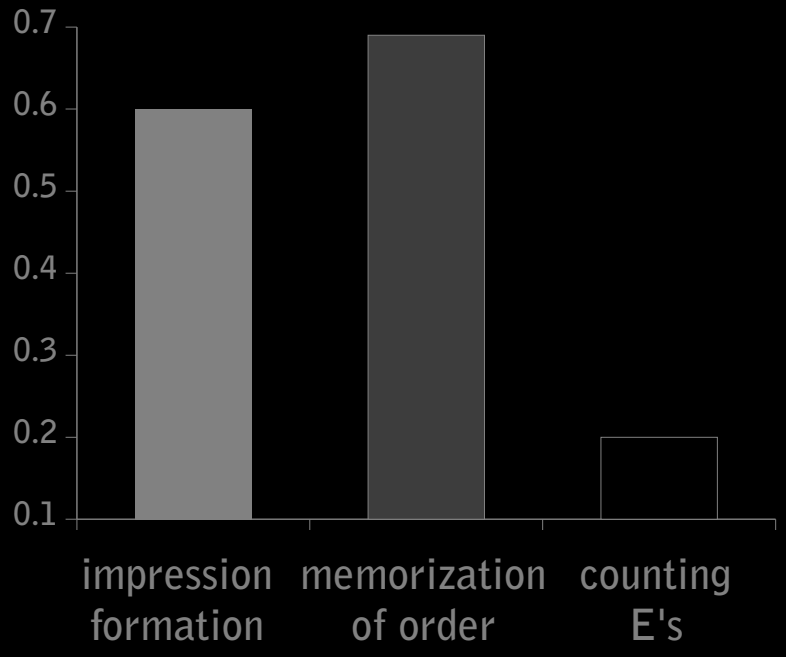


F(2,112)=29,07; p<,000

experiment 5

results:

VD order: index of order (0-1)



F(2,112)=29,07; p<,000

F(1,112)=5,77; p<,018

experiment 5

design:

3 processing goals: impression formation

vs.

memorization of order

vs.

counting vowels – E's

X

2 recall: free recall

vs.

ordered recall

experiment 5

design:

3 processing goals: **impression formation**

vs.

memorization of order

vs.

counting vowels – E's

X

2 recall: **free recall**

vs.

ordered recall

experiment 5

discussion:

1 - the memorization of order processing goal condition is not equivalent to the low-level of processing condition (counting a vowel).

- This is especially relevant because that means that our memorization processing goal condition can not be categorized as a low-level of processing condition. Therefore, it is difficult to argue that our findings are based on the fact that we use a low-level of processing condition (memorization of order) in contrast to a high-level of processing, elaborative condition (impression formation). The memorization condition involves elaboration.

2 - our order of measure is actually discriminative and it is sensitive to the amount of processing involved

experiment 6

design:

experiment 6

design:

5 processing goals:

- impression formation
- vs.
- comparative impression formation – **similar**
- vs.
- comparative impression formation – **different**
- vs.

X

- comparative impression formation – **previous**
- vs.
- memorization of order

2 recall

- free recall
- vs.
- ordered recall

experiment 6

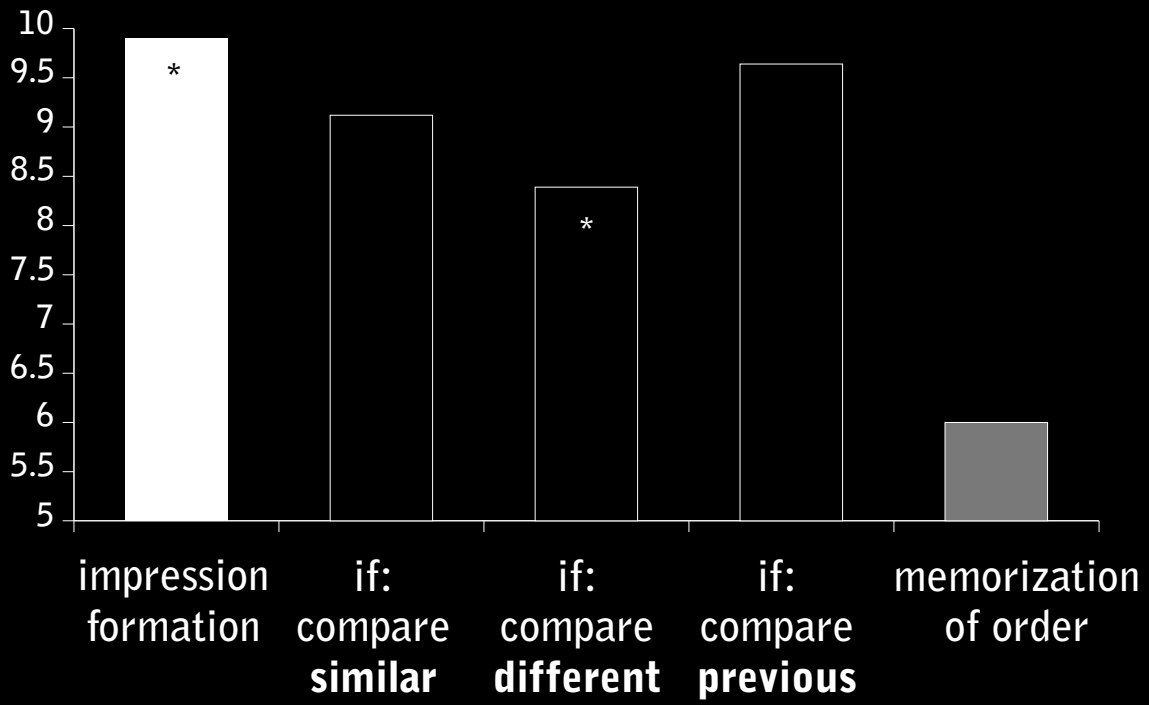
results:

VD item: # items recalled

experiment 6

results:

VD item: # items recalled



F(4,149)=7,78; p<,000

* t(149)=2,00; p<,023

experiment 6

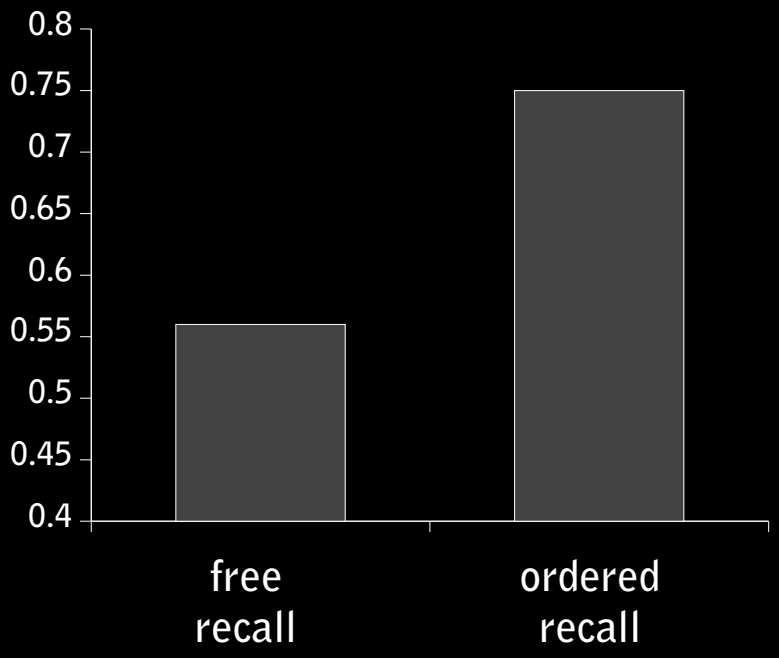
results:

VD order: index of order (0-1)

experiment 6

results:

VD order: index of order (0-1)

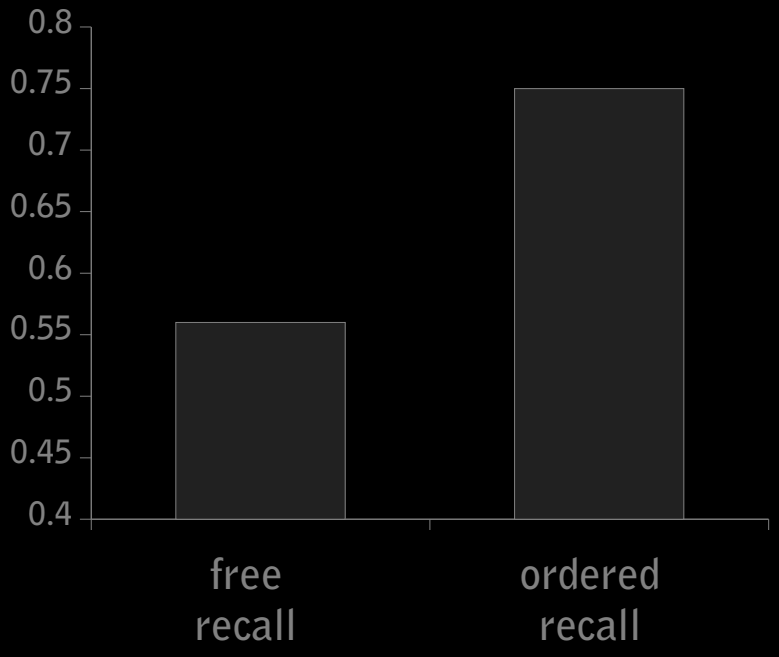


F(1,148)=30,16; p<,000

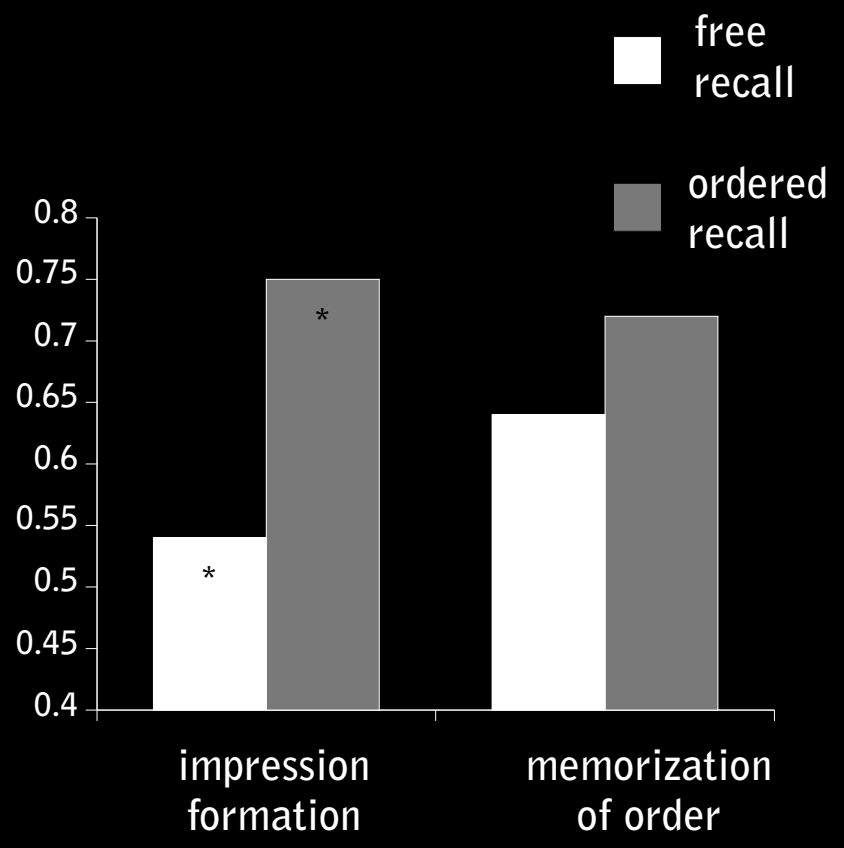
experiment 6

results:

VD order: index of order (0-1)



F(1,148)=30,16; p<,000



F(4,148)=1,63; p<,170

* t(148)=2,86; p<,002

experiment 6

design:

5 processing goals: impression formation

vs.

comparative impression formation – **similar**

vs.

comparative impression formation – **different**

vs.

comparative impression formation – **previous**

vs.

memorization of order)

X

2 recall free recall

vs.

ordered recall

experiment 6

design:

5 processing goals: **impression formation**

vs.

comparative impression formation – similar

vs.

comparative impression formation – different

vs.

comparative impression formation – previous

vs.

memorization of order)

X

2 recall free **recall**

vs.

ordered recall

experiment 6

discussion:

item information

1 – impression formation results in better recall of item information

2 – while forming an impression, comparing (associating) each encoded item with different items (different traits) impairs the ability to recall item memory

- impressions as coherent representations

order information

1 – impression formation keeps track of order information

- participants only recall the information in an ordered way if they were specifically asked to so, they don't do it spontaneously

2 – promoting inter-item associations, as well as manipulating the specific nature of these associations does not impair (or facilitate) memory for order

general discussion

item information

1 – impression formation facilitates item memory (1-6)

2 – traits – facilitate item memory (2)

3 – item information –> episodic memory (3, 4 & 6)

order information

1 – impression formation keeps track of order information, under specific conditions:

- not spontaneously (1, 3-6)

2 – days – facilitate order memory (2)

3 – order information –> semantic memory

- unaffected by manipulations that play around with inter-item associations

4 – level of processing argument: memorization of order involves elaboration

5 - order information is kept in situations where it is useless to make sense about a target

thanks!

- to **SOCAS**

- and to all the other warm, party-loving creatures in the audience

after all, it is now evident that this is more than just scientific overlap!