Travelling in Time
future intentions & past acts

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Background

Episodic memory is autonoetic: remembering with subjective awareness (Tulving, 1985).

Episodic future thinking is the ability to flexibly project yourself into the future to mentally pre-experience a one-time event (Atance & O'Neill, 2001).

When planning a future event vs. a cover story, 97% of truthtellers vs. 66% of liars used episodic future thinking. Truthtellers rated temporal clarity and spatial location of people as more detailed and used more words to describe their dominant mental image (Granhag & Knieps, in press).

Aim

To examine the phenomenology of true vs. false memories and true vs. false intentions.

Stimuli

Temporally close events matched for plausibility, frequency and ease of mental imagery:

Invite a friend for dinner
Attend a progress meeting
Meet for coffee
Drinks in a bar
Cinema trip
Go to a club
Visit a friend's house
Gym or fitness class
Try a new recipe
Stay in with pizza and a movie

Method

Student sample aged 18-30 (n=65).
Chose four events
Past 14 days:
one true, one invented
Future 14 days:
one true, one invented.

Within participants design:
2 (past, future) x 2 (true, false).

Two practice phases.
Simulation time unrestricted.
Verbal description of simulation.
Adapted memory characteristics questionnaire (D'Argembeau & Van der Linden, 2004).
Experimenter blind to condition.

Simulation instructions

You are being asked to think about a (past/future) event, whether true or false. I would like you to travel (back/forward) in time to remember or simulate a specific occasion that matches the description of the event you have chosen and lasted over an hour and under one day within the past two weeks.

Close your eyes and try to p/re-experience the event in your mind. Notice the setting, the way things happen, any people and objects present, any sensory details. Try to explore what it was/will be like to be there in as much detail as you can. Take as long as you need.

True events contain more details than false events

| * $p \le .05$ ** $p \le .01$ *** $p \le .0001$	True vs. False		Future vs. Past	
	t	R²	t	R²
Autonoetic	-9.68**	0.17	-0.01	0
Visual	-4.61**	0.05	-0.68	0
Auditory	-5.72**	0.08	-0.79	0
Location	-5.47**	0.09	-2.65**	0.02
Spatial objects	-4.45**	0.05	-1.06	0
Spatial people	-4.41**	0.05	-0.95	0
Temporal	-8.96**	0.15	-1.50	0
Visual perspective	3.26**	0.03	-0.33	0
Feeling emotion	-7.81**	0.13	-0.65	0
Emotional valence	-3.72**	0.05	0.46	0
Importance	-7.09***	0.12	0.40	0
In words	-2.32*	0.01	-1.18	0
Coherence	-5.13***	0.07	-0.67	0
Desirability	-4.82**	0.09	0.20	0
Word count	-3.82**	0.02	-3.39**	0.01

Autonoetic
(sense of mental time travel + reliving, where 1= low; 7=high)
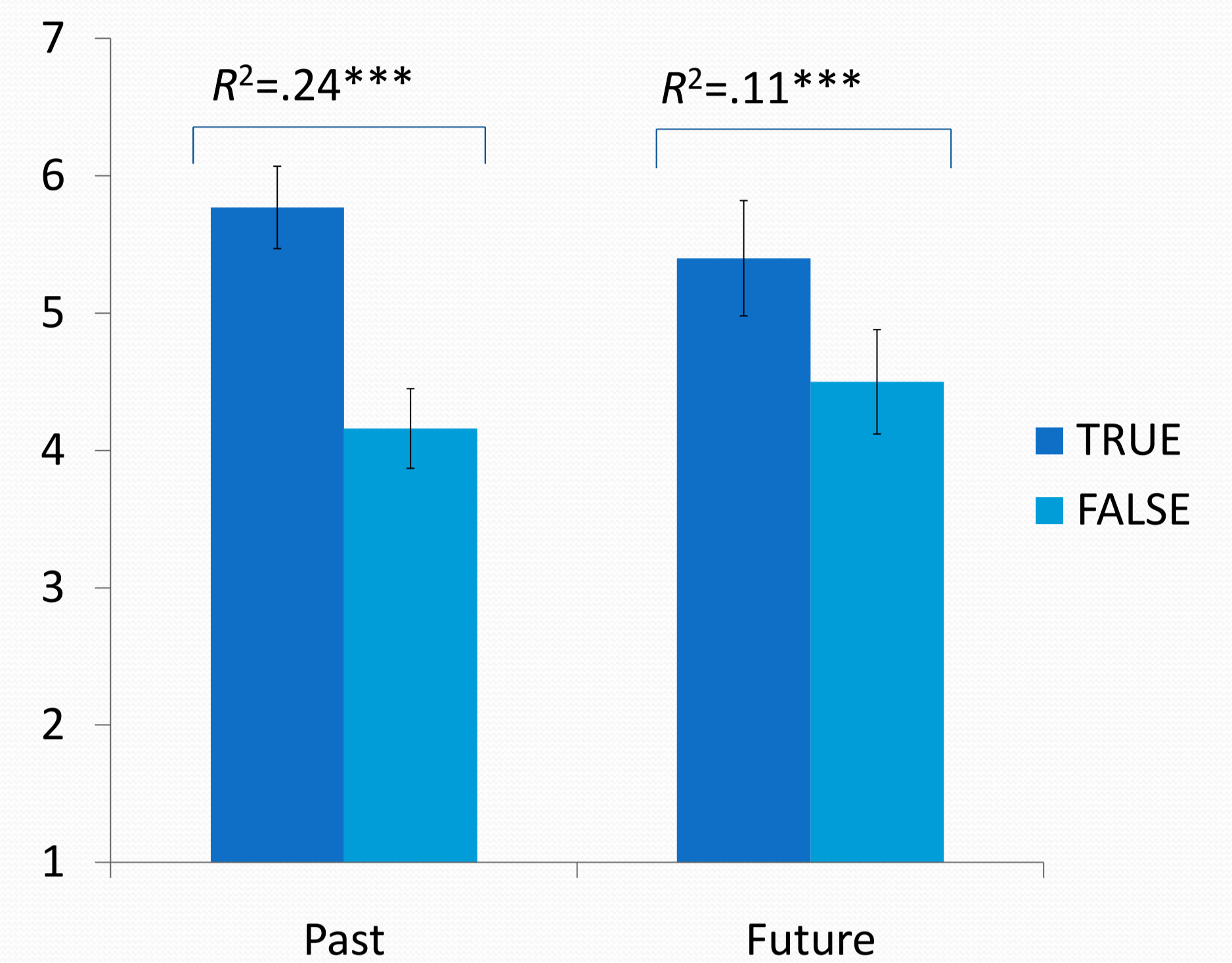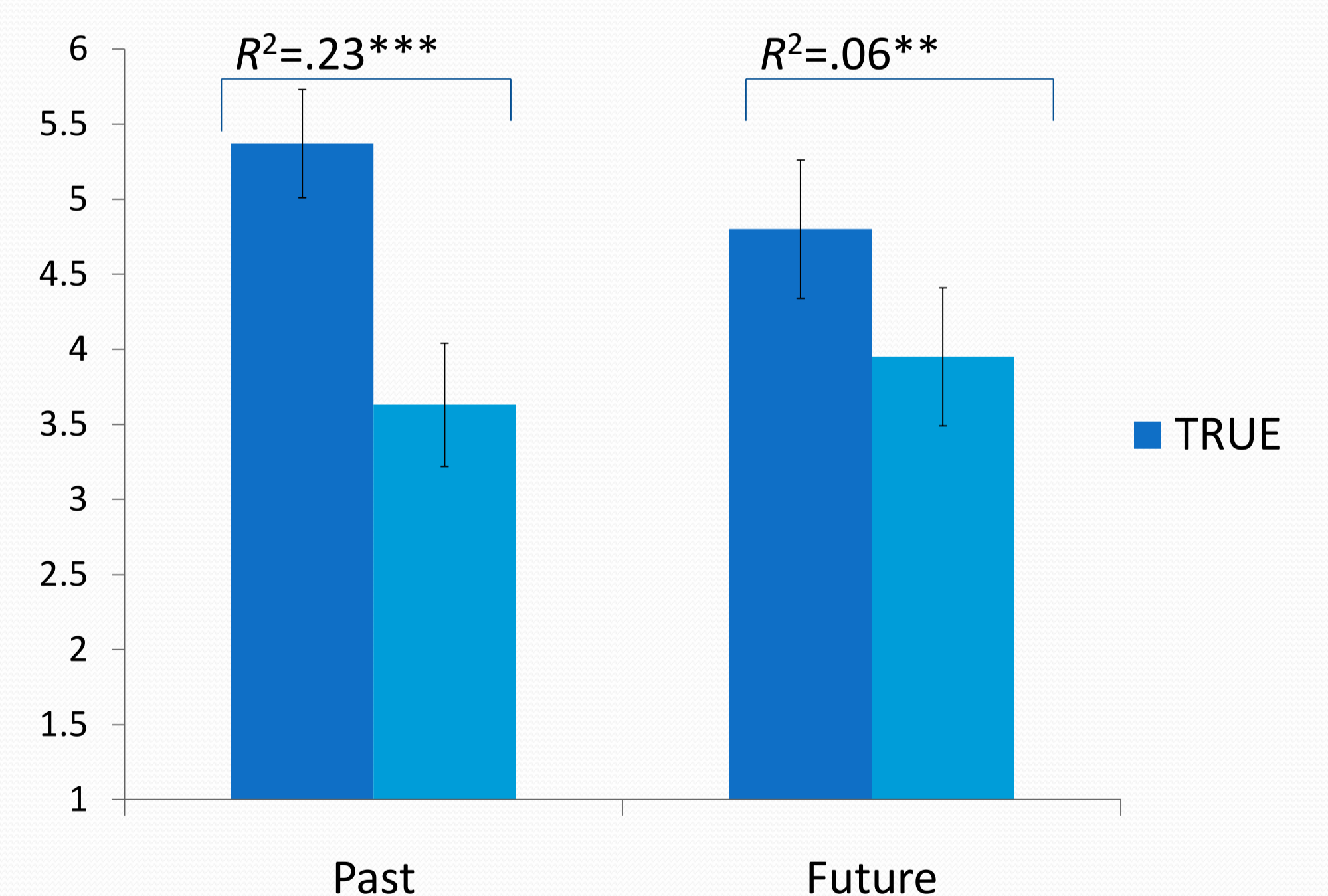

Temporal
(clarity of time of day)
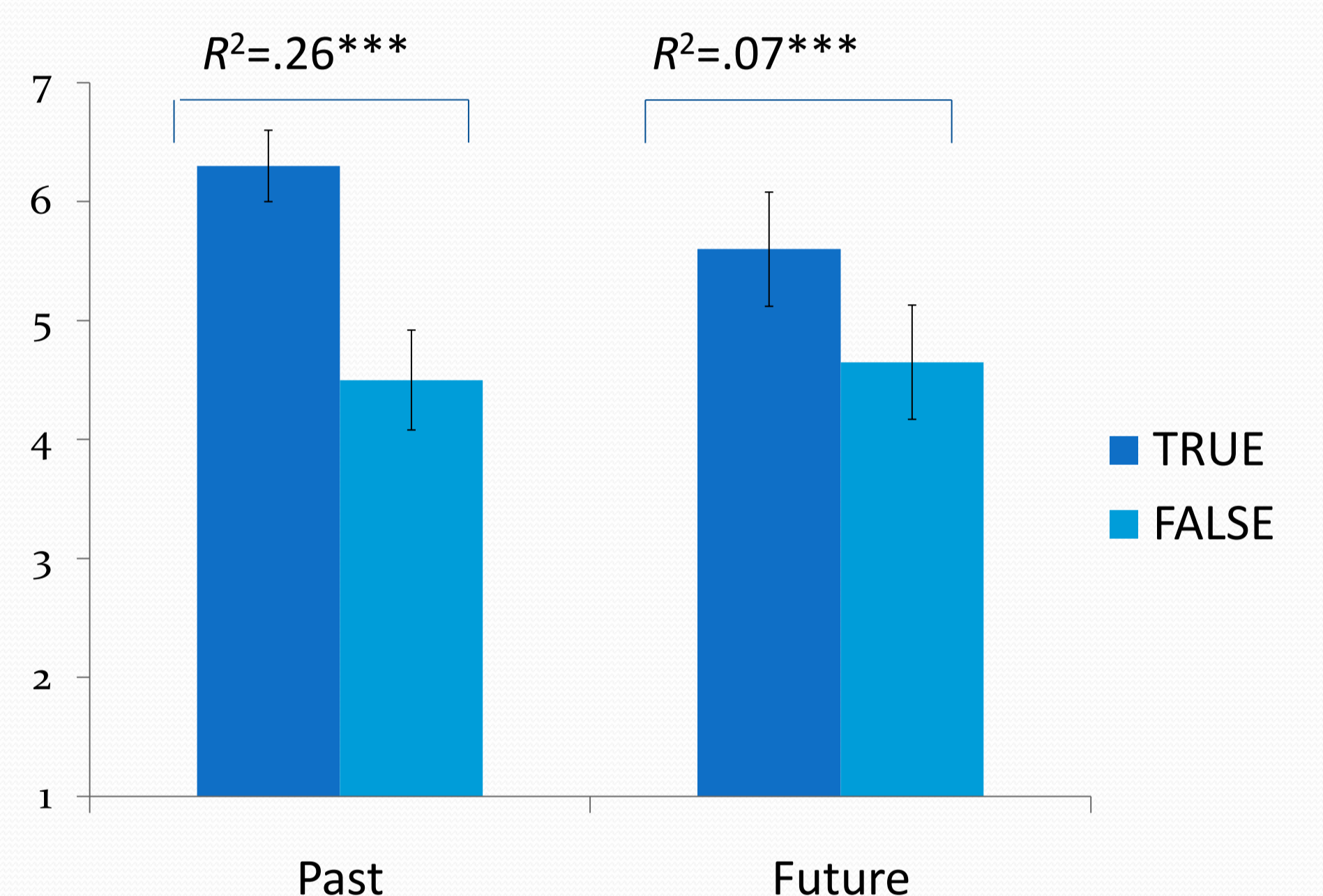
Feeling emotions
(emotional arousal p/re-experienced)

Summary of results

Self-rated phenomenology and number of words were higher in true vs. false events.

Subjective ratings of true episodic memories and true future thoughts were similar. There were greater differences in ratings of past events (true/false).

References

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