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Parallel Session 4B Problem Gambling

Effects of unrelated arousal on reckless gambling behavior

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Self-Introduction

Takuhiro Takada, M.A.（Psychology）

Graduate student of University of Tsukuba, Japan

Main theme: Gambling Behavior, Affect, Perceived-Luck

Especially, my research focused on gambling behaviors on human beings, and did some experimental studies.

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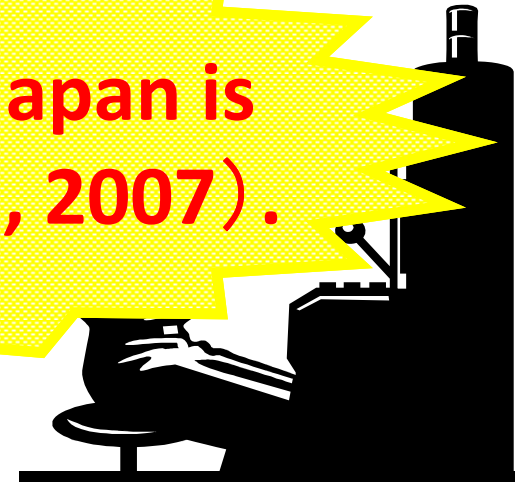
Background

There are many opportunity to do various gambles also in Japan.

Ex: horse racing, public lottery,
and pachinko (a Japanese upright pinball)

But, the study of gambling in Japan is still limited（Kido & Shimazaki, 2007）.



Previous Studies

Some studies（ex. Cummins et al., 2009） revealed the relationship between positive emotion and reckless gambling.

・・・ when people feeling positive, they likely to bet risky and recklessly compared to feeling negative.

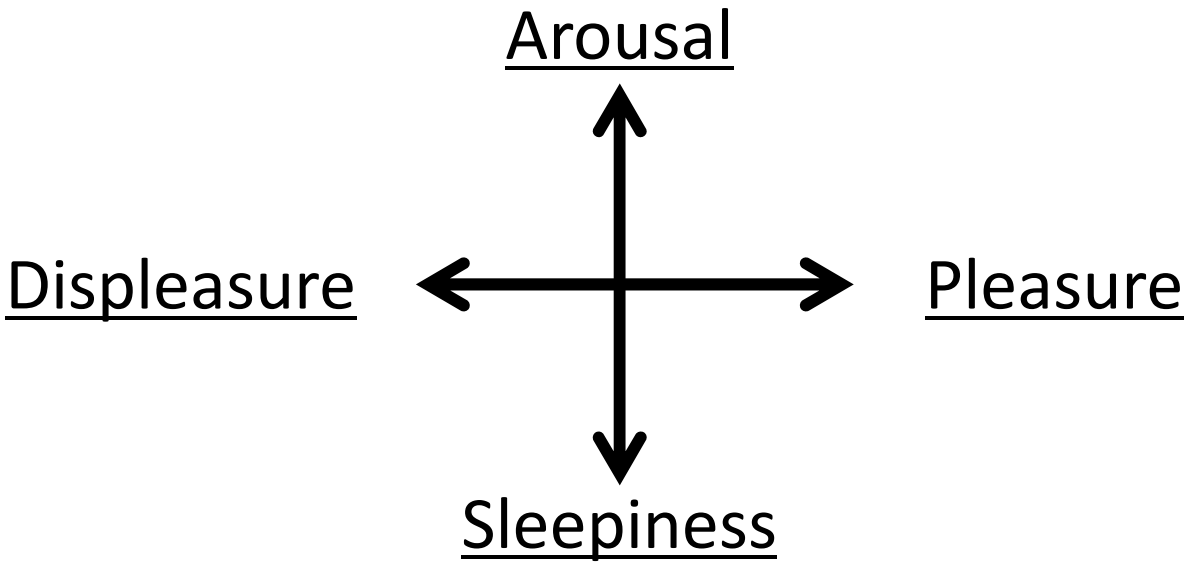
Emotions are likely to play a large role in gambling!

Core affect theory

Russell and Feldman-Barrett（1999） insists that emotional state is consisted by 2 dimensions.

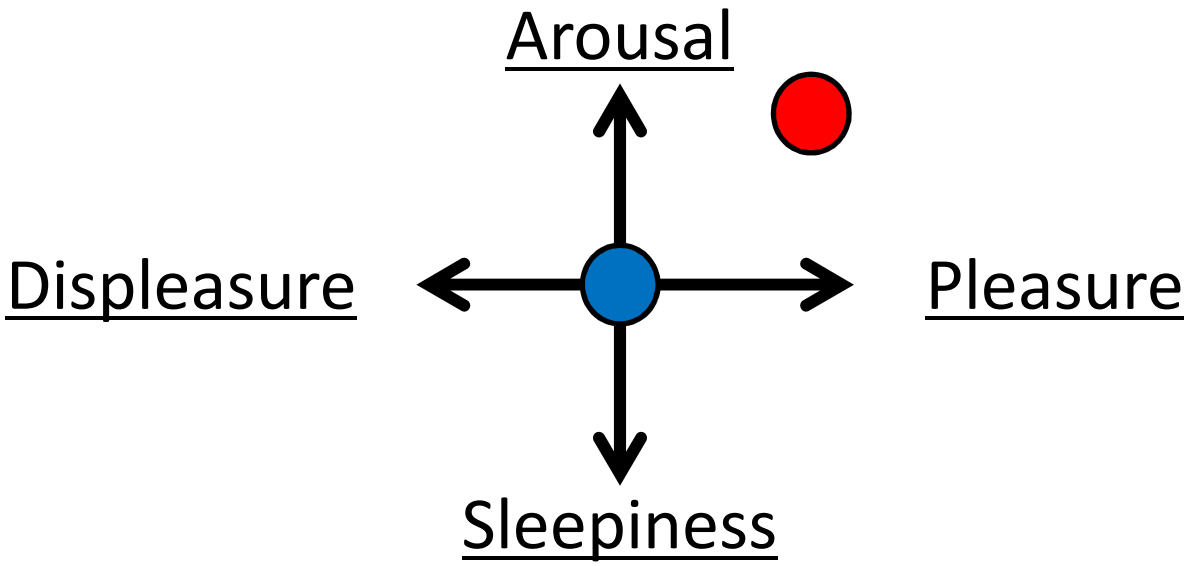
Pleasure – Displeasure dimension

Arousal – Sleepiness dimension



Purpose

※However, it is not clear that which dimension is important for reckless gambling.



In this study, effects of unrelated arousal without positive emotion were experimentally investigated in healthy undergraduates.

Method

- **Participants**

  34 Japanese undergraduates

  (18 males, 16 females, mean age was 19.76)

- **Measure**（**affect**）

  Affect Grid (Russell et al., 1989)

- **Measure**（**perceived-luck**）

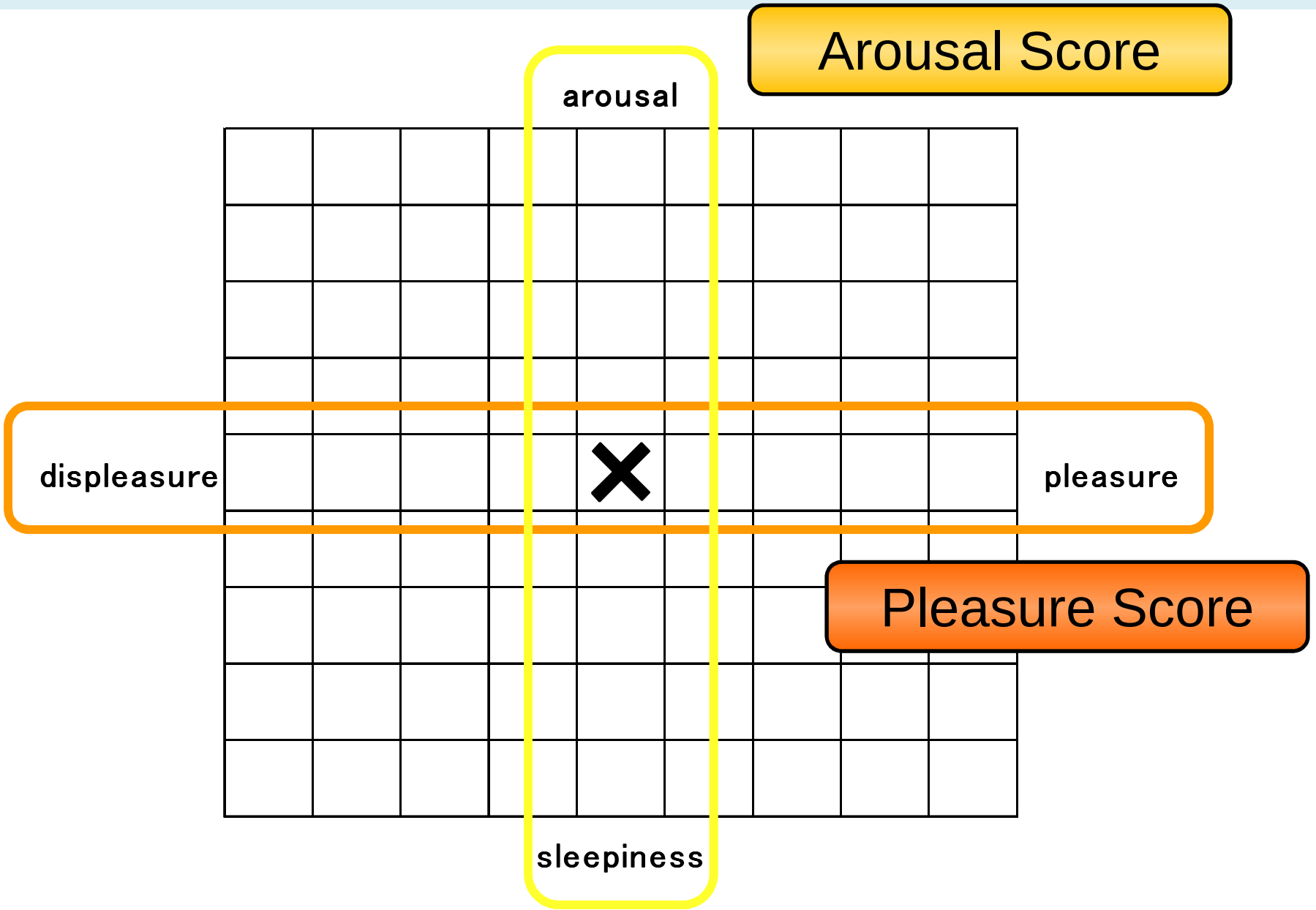
  1-item scale（How much do you think you are lucky of now?）

  from -5 (bad luck) to +5 (good luck）

- **Gambling Task**

  Game of Dice Task (GDT；Brand et al., 2005)

Affect Grid（Russell et al., 1989）



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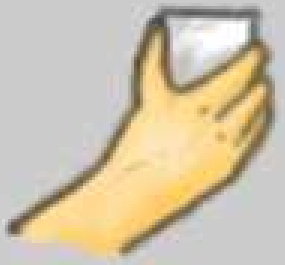
  from -5 (bad luck) to +5 (good luck）.

  ➡ Luck score

- **Gambling Task**

  Game of Dice Task (GDT；Brand et al., 2005)



YOUR SELECT

SCORE
1000

Round 0 / 18

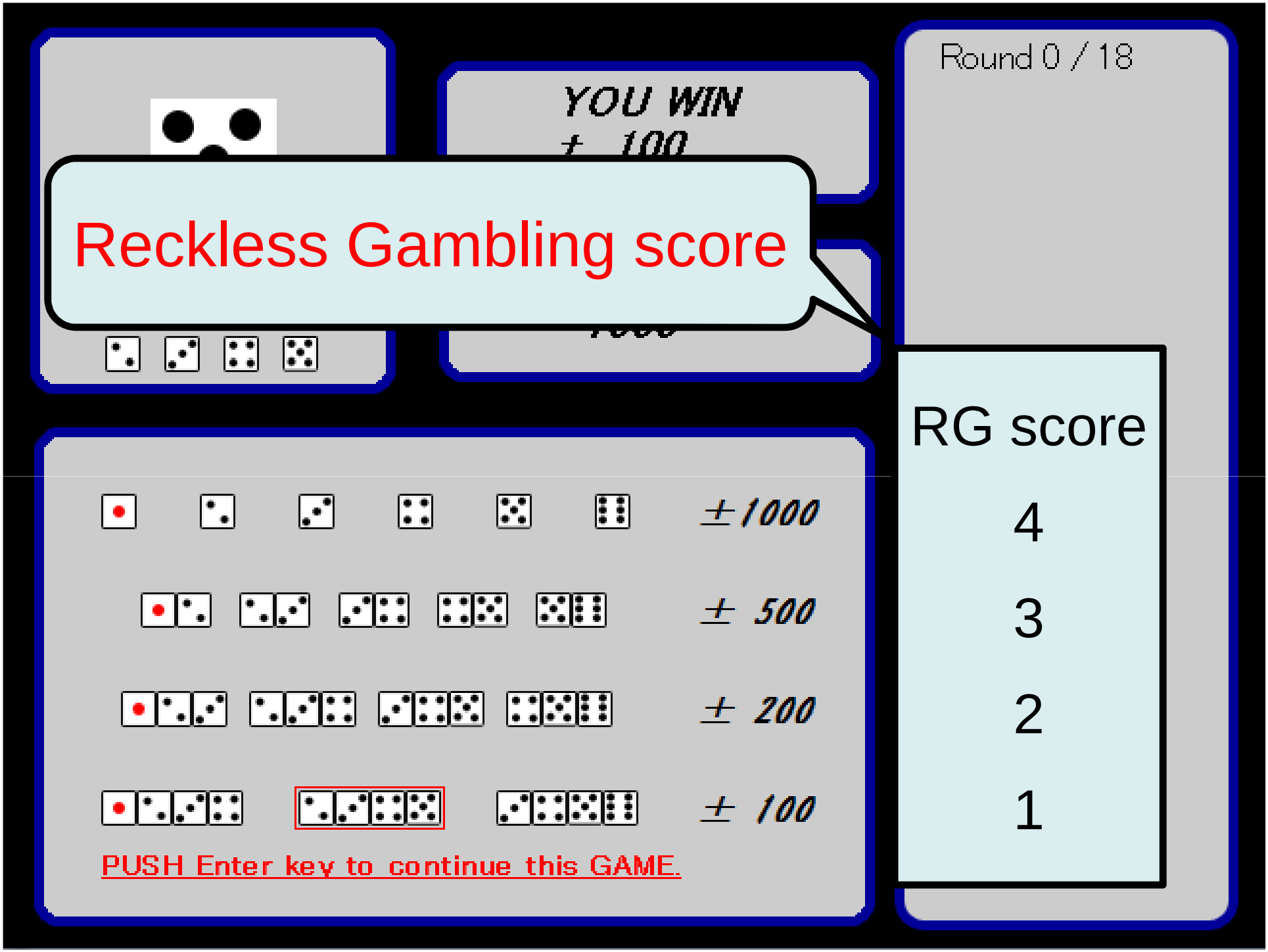
±1000

± 500

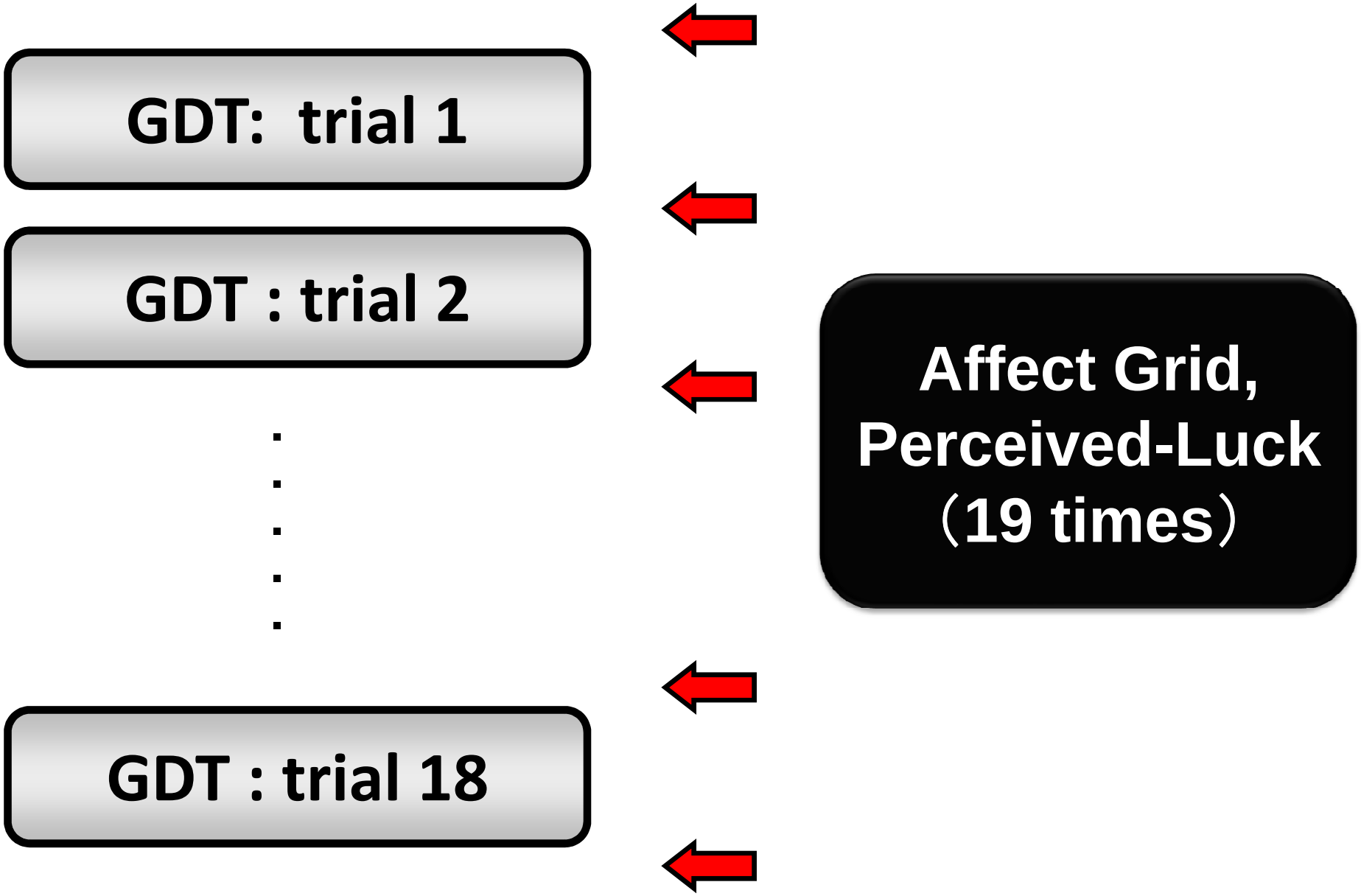
± 200

± 100

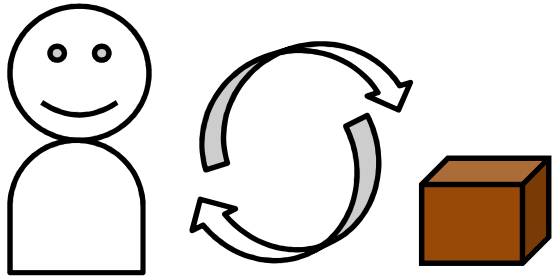
Select your combination and PUSH Enter key.


Round 0 / 18
YOU WIN
+ 100
Reckless Gambling score
RG score
4
3
2
1
±1000
± 500
± 200
± 100
PUSH Enter key to continue this GAME.

Procedure


GDT: trial 1
GDT : trial 2
GDT : trial 18
Affect Grid,
Perceived-Luck
（19 times）

Manipulation of Arousal

	Experimental Group	Control Group
Before GDT		
	Step Exercise	Wait 2 minutes
Arousal	High	Neutral

Results

1. Manipulation checks

	Experimental gourp			Control group	
	Mean	SD		Mean	SD
Pleasure score	5.24	1.20		4.94	1.30
Arousal score	6.47	0.80	>	5.00	1.77

Arousal manipulation in this study was success.

Results

2. The fundamental data

	Experimental group		Control group		
RG score	1.60	(0.50)	< 2.02	(0.67)	*
GDT final score	882.35	(2161.67)	−641.18	(3462.31)	
Pleasure score	5.06	(1.23)	4.40	(1.48)	
Arousal score	6.15	(1.06)	6.09	(1.31)	

Experimental group prefer less reckless gambling than control group!

Analysis

◆2 × 2 ANOVA（unrelated arousal × winning versus losing）

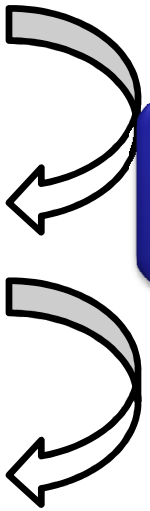
Dependent variable：the sift size of each score

（Ex）

Trial 1　RG score：2

Trial 2　RG score：3

Trial 3　RG score：2



Became more reckless

Sift size：＋1

Became more safety

Sift size：－1

Results

3. The effect of unrelated arousal, and winning versus losing on sift size of each sore

		Experimental group		Control group	
RG score	win	0.19	(0.17)	0.12	(0.39)
	lose	−0.19	(0.27)	−0.09	(0.19)
Pleasure score	win	0.77	(0.53)	1.02	(0.94)
	lose	−1.12	(0.71)	−1.04	(0.66)
Arousal score	win	0.12	(0.27)	0.18	(0.18)
	lose	−0.24	(0.35)	0.09	(0.64)
Luck score	win	0.55	(0.38)	0.93	(1.05)
	lose	−0.82	(0.53)	−0.94	(0.63)

Results

3. The effect of unrelated arousal, and winning versus losing on sift size of each sore

		Experimental group		Control group	
	win	0.10	(0.17)	0.12	(0.30)

The main effects of winning versus losing was significant.
But, the main effects of unrelated arousal and interaction were not significant.

Arousal score	win	0.12	(0.27)	0.18	(0.18)
	lose	−0.24	(0.35)	0.09	(0.64)
Luck score	win	0.55	(0.38)	0.93	(1.05)
	lose	−0.82	(0.53)	−0.94	(0.63)

Conclusions

Arousal without positive emotion might have not promoted but inhibited reckless gambling behavior.

“Pleasure – displeasure” dimension may be more important factor than “arousal – sleepiness” dimension for reckless gambling.

After participants experienced wins, compared to losses, their emotional state became more positive and aroused, and their perceived luck increased, and their next gambling choice became more reckless.

Possible reasons & future plans

◆ In this study, manipulation of arousal was conducted only before the gambling task.

・・・ it might need the manipulation which continued through all gambling task.

◆ To understand the basic mechanisms of gambling behavior, further research is needed that focused on the effects of affect.

Thank you!

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