THE IMPACT OF GROUP THERAPY ON SOCIAL BEHAVIOUR IN BORDERLINE PERSONALITY DISORDER

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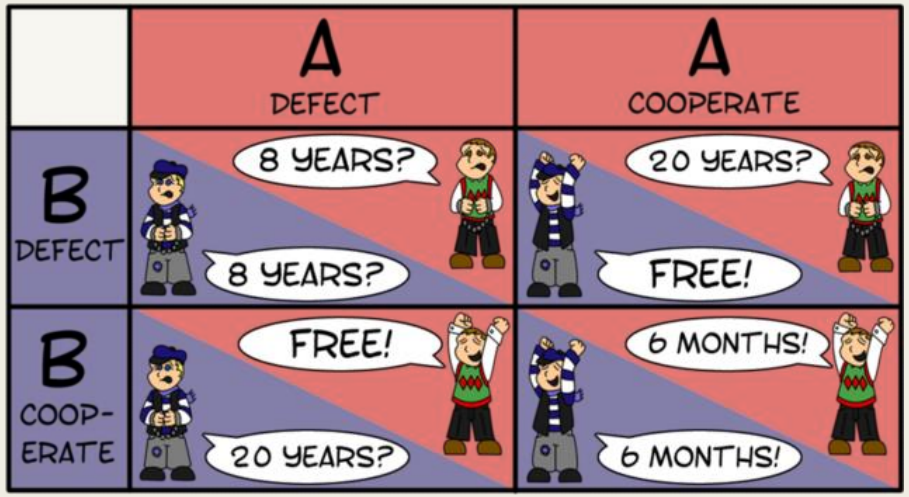
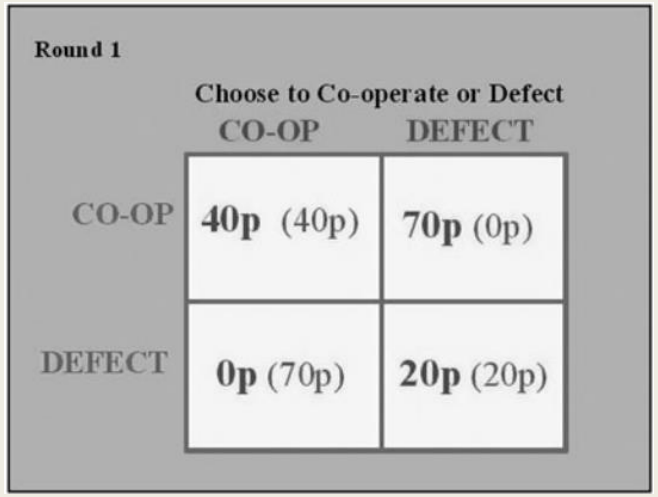
Content Of Talk

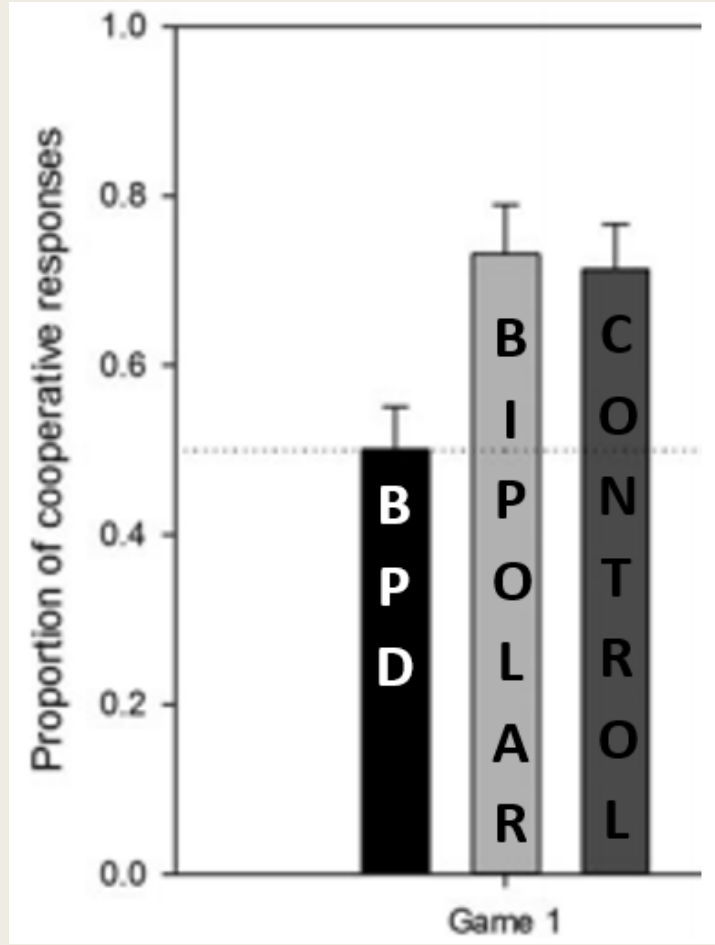
- **Introduction**
  ⇒This study and previous research in this area.
- **Quantitative Methodology and Results**
  ⇒Public goods game & discounting tasks, the statistical methods used to analyse the data from these tasks, and what was found.
- **Qualitative Methodology and Results**
  ⇒Group Interview, and the key themes from the interview.
- **Discussion**
  ⇒Interpreting the results.
- **Limitations & Future Recommendations**
  ⇒Potential problems with this study and how this might be addressed in future research.

Introduction (1 of 8)

- **Disrupted social exchanges** are a primary locus of BPD psychopathology.
- Social Functioning in the '**Prisoner's Dilemma Game**'; a previous study.



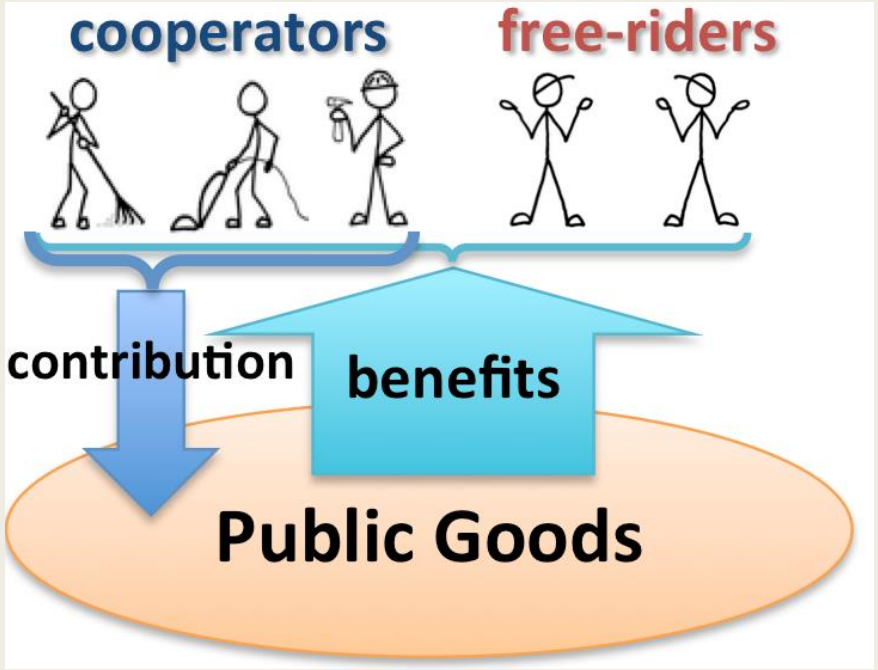




Saunders et al. Borderline personality disorder, but not euthymic bipolar disorder, is associated with a failure to sustain reciprocal cooperative behaviour: implications for spectrum models of mood disorders. *Psychological Medicine.* **45,** 1591-1600 (2015).

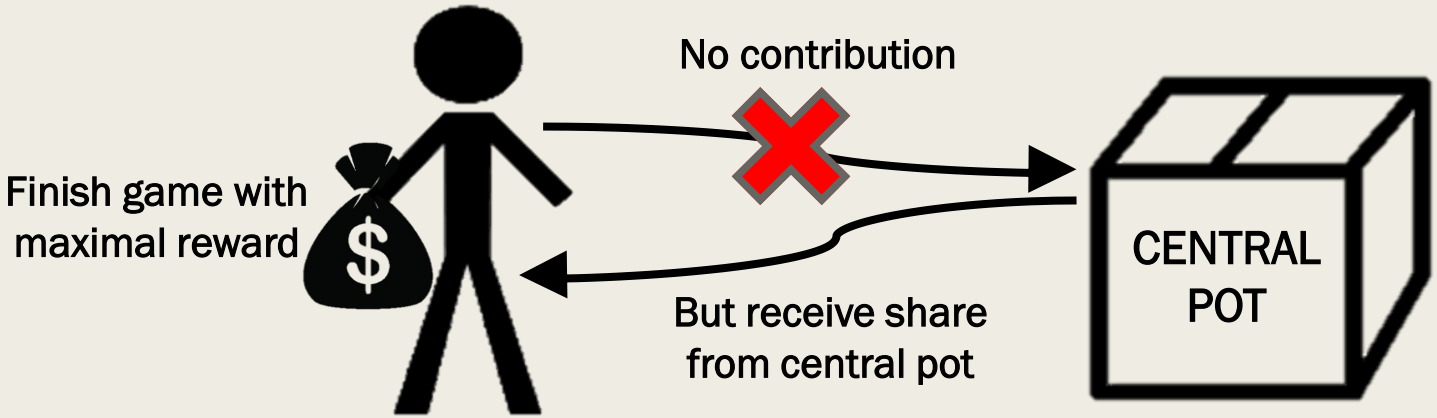
Introduction (2 of 8)

- However, prisoners dilemma games only looks at **interactions between two people** (dyadic relationships).
- Most of the time **we engage in social interactions as part of groups,** not in dyads.
- **Public Goods Games (PGGs)** are a well-established means to look at **group social behaviours.**



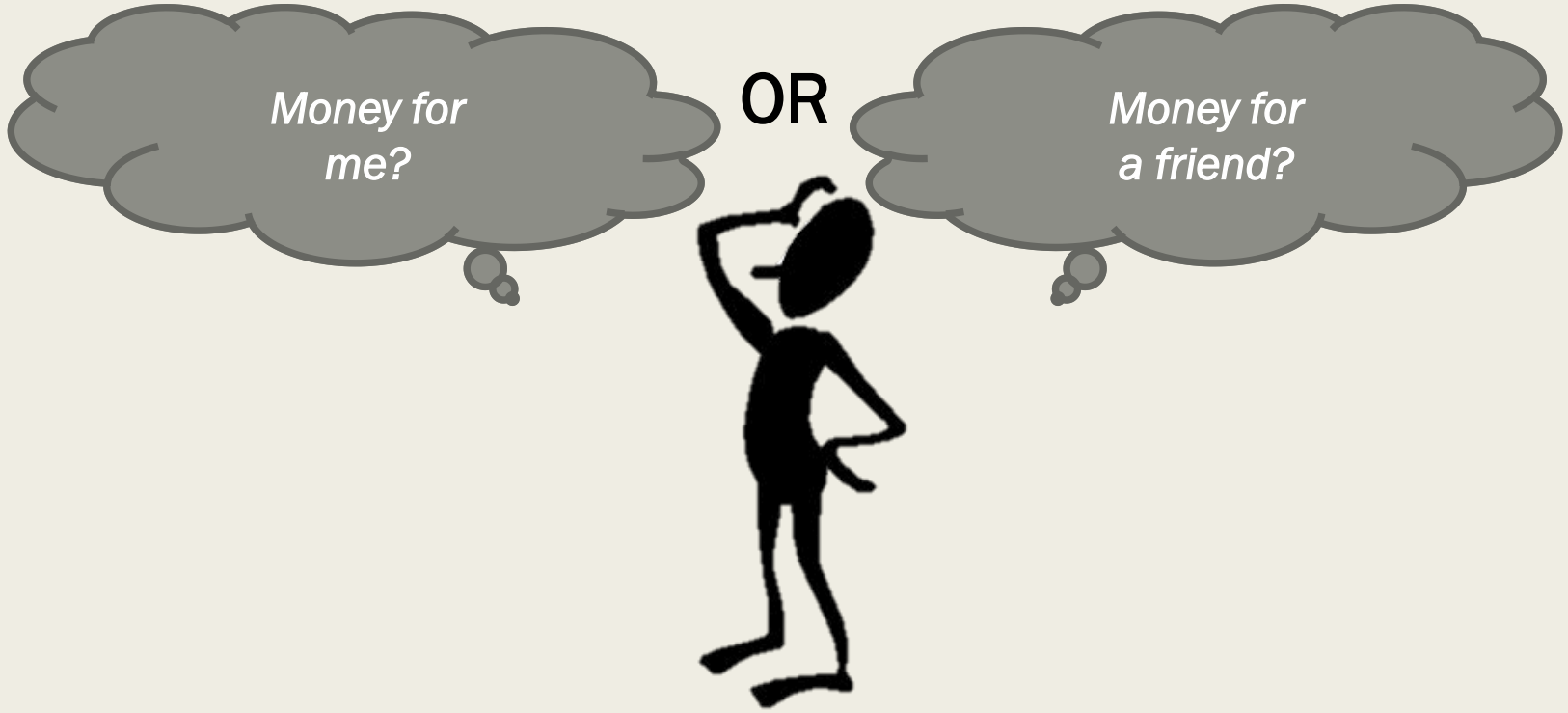
Introduction (3 of 8)

- **Freeloaders**: participants who **do not contribute.**
- Earn the **greatest rewards.**
- Only a **limited number** can exist in a group.



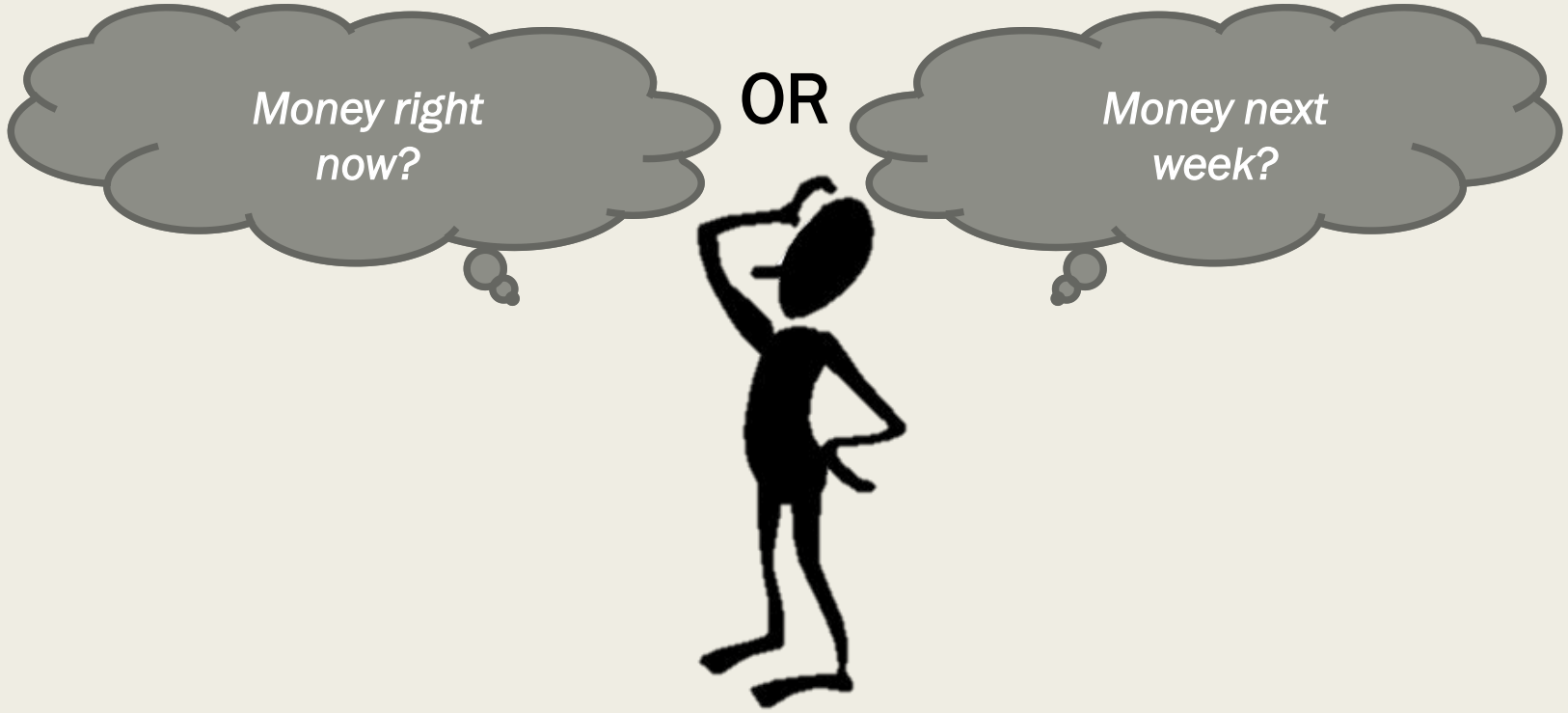
Introduction (4 of 8)

- **Social Discounting:** a person must choose whether to forgo reward such that others at various social distances, from close friends or relatives to distant acquaintances, might receive an increased or equal reward instead.



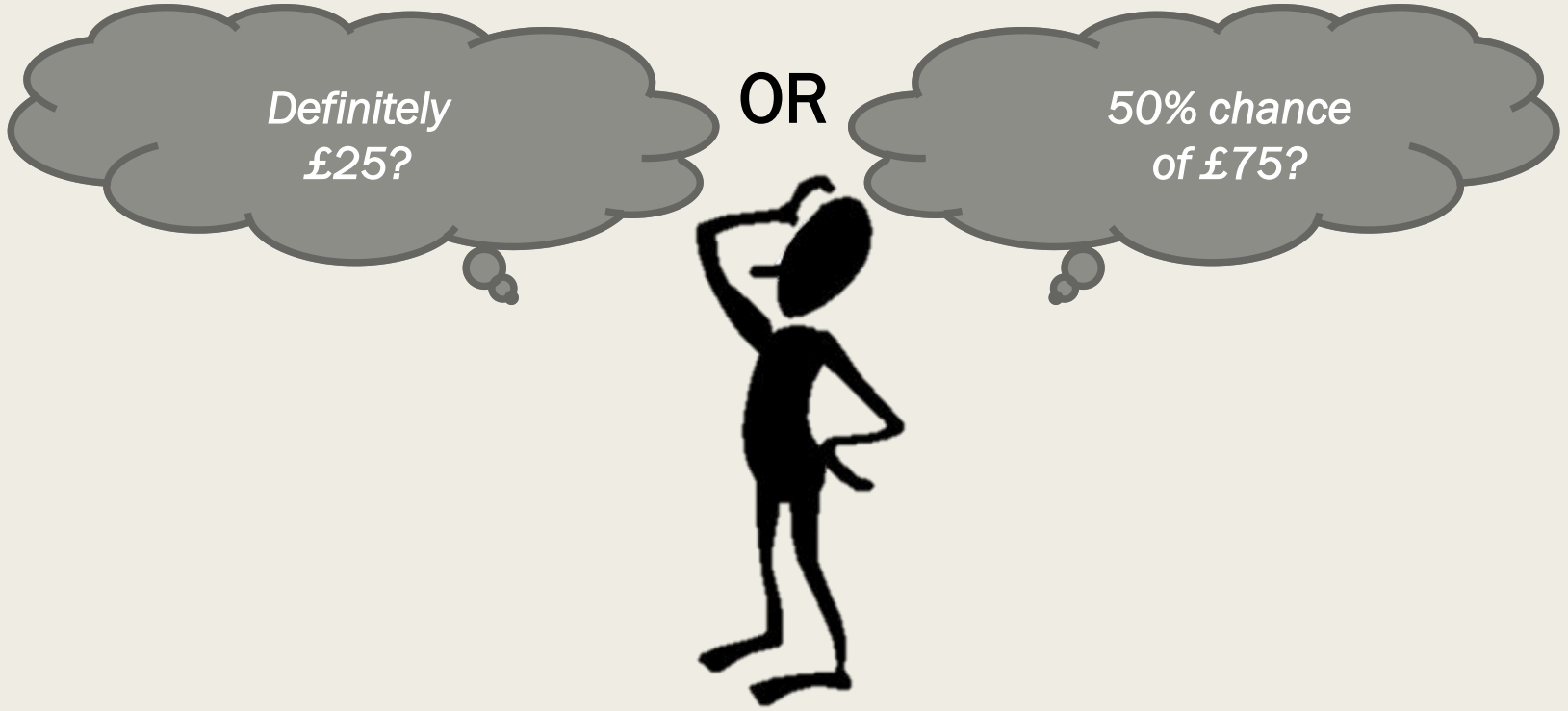
Introduction (5 of 8)

- **Temporal/Delay Discounting:** a person must choose between receiving a greater reward at a specified point in the future, or a lesser reward now.



Introduction (6 of 8)

- **Probability discounting:** a person must choose between a specified percentage chance of winning a reward, or the certainty of a lesser reward.



Introduction (7 of 8)

- **'Democratic therapeutic communities' (DTC):** there is some evidence they are more effective than the current usual courses of treatment patients receive in improving outcomes.

'At 24 months, self- and other directed aggression and satisfaction with care were significantly improved in the DTC compared with the TAU group'.

(TAU=treatment as usual)

- **3 Groups** in study:

Pearce et al. Democratic therapeutic community treatment for personality disorder: randomised controlled trial. *The British Journal of Psychiatry*. **210**, 149-156 (2016).

Introduction (8 of 8)

***Primary Outcome**: Does membership to DTC affect social function?*

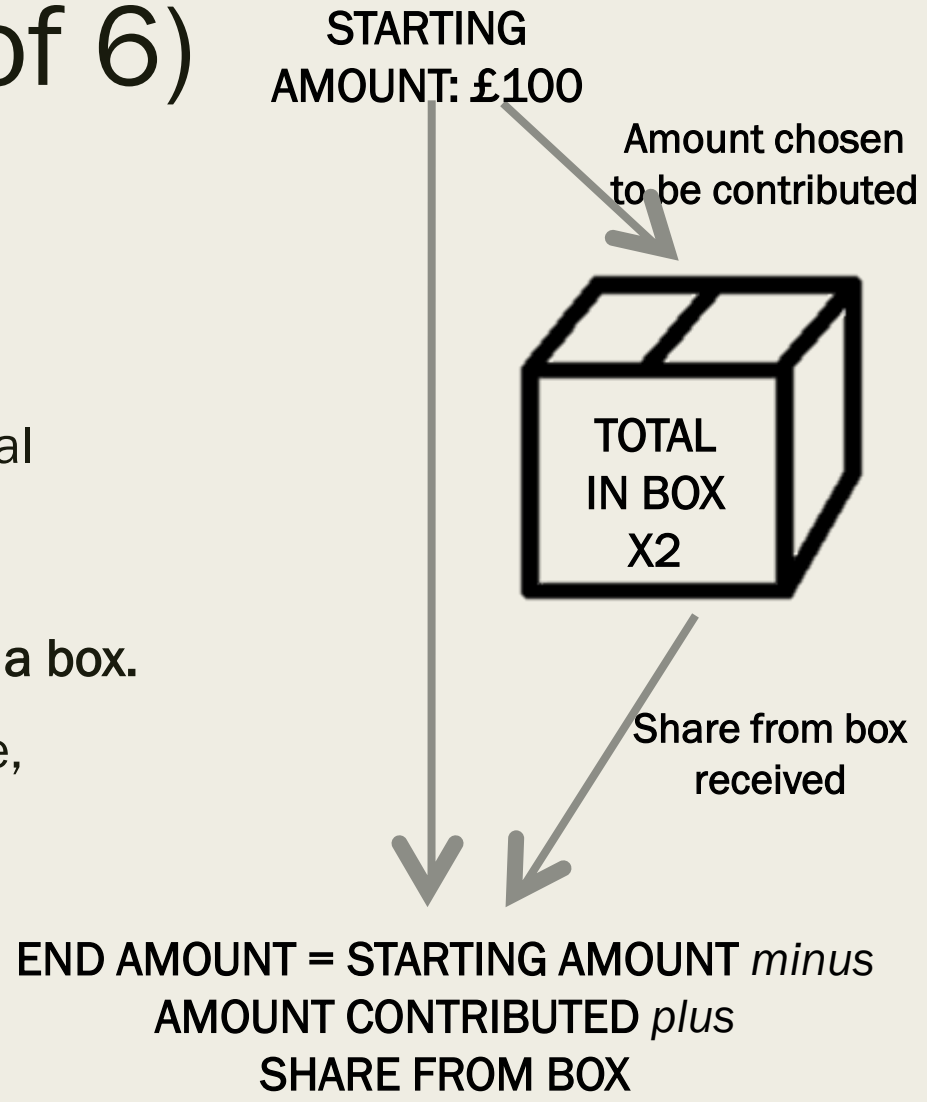
- To look at **social functioning:**
  - **Public Goods Game.**
  - Task looking at **social discounting.**
  - Task looking at **temporal discounting.**
  - Task looking at **probability discounting.**
- Carried out **in:**
  - **Pre-therapy group.**
  - **Therapy group.**
  - **Control group.**

Quantitative Methods (1 of 6)

GROUP	n=	MEAN AGE	GENDER (% female)
Pre-treatment Group	19	32.9	89%
Treatment Group	18	34.2	89%
Control Group	12	39.4	83%

Quantitative Methods (2 of 6)

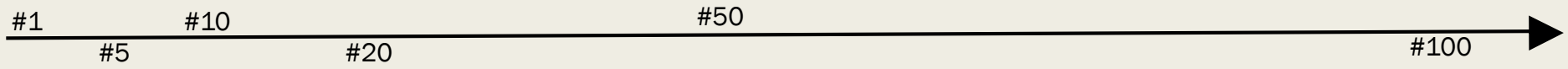
- **Public Goods Game.**
- Participants were first presented with the hypothetical scenario in which each person was given **£100 as a starting amount.**
- Participants could then select an **amount to put into a box.**
- The amount in the box would then be **doubled** before, being **redistributed equally** among participants, regardless of their initial contribution.



Jones et al. Delay, Probability, and Social Discounting in A Public Goods Game. *Journal of Experimental Analysis of Behaviour.* **91**, 61–73 (2009).

Quantitative Methods (3 of 6)

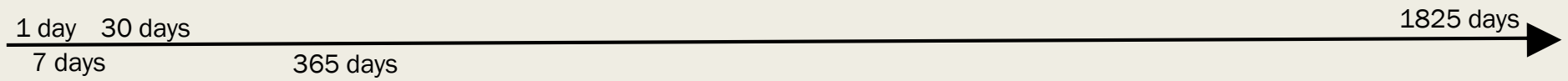
- **Social Discounting:** For 6 social distances, #1, #5, #10, #20, #50, & #100, participants were presented with the choice of £75 for the other person, or incrementally decreasing amounts for themselves.
- i.e. *£85 for you alone or £75 for the #1 on the list,*
  £75 for you alone or £75 for the #1 person on the list
  *––– **TO** –––*
  £0 for you alone or £75 for the #1 person on the list.



Jones et al. Delay, Probability, and Social Discounting in A Public Goods Game. *Journal of Experimental Analysis of Behaviour.* **91**, 61–73 (2009).

Quantitative Methods (4 of 6)

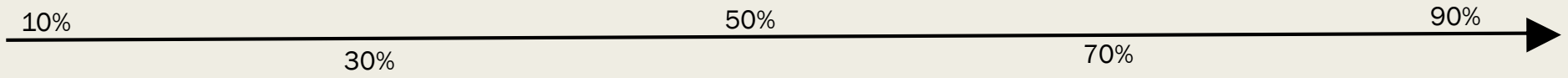
- **Temporal Discounting:** For 5 delay periods, 1 day, 1 week, 1 month, 1 year, & 5 years, participants were presented with the choice of £75 after the time period or incrementally decreasing values of money.
- i.e. *£75 right now or £75 after 1 day,*
  £70 right now or £75 after 1 day,
  *––– **TO** –––*
  £5 right now or £75 after a day.



Jones et al. Delay, Probability, and Social Discounting in A Public Goods Game. *Journal of Experimental Analysis of Behaviour.* **91**, 61–73 (2009).

Quantitative Methods (5 of 6)

- **Probability Discounting:** At 5 different values, 10%, 30%, 50%, 70%, & 90%, participants were presented with the choice between chance to win £75, or certainty of incrementally decreasing values instead.
- i.e. *£75 guaranteed or a 10% chance of winning £75,*
  £70 guaranteed or a 10% chance of winning £75,
  *––– **TO** –––*
  £5 guaranteed or a 10% chance of winning £75.



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Quantitative Methods (6 of 6)

Social: $K_{social} = \frac{(\left(\frac{V}{v}\right)-1)}{S}$

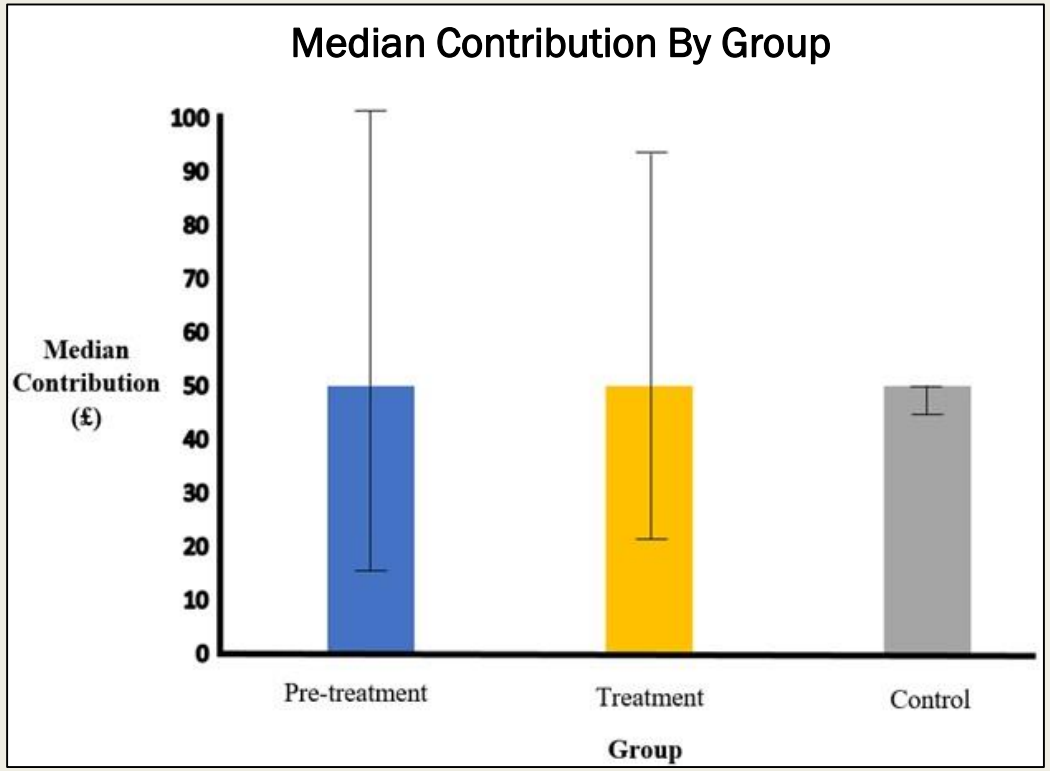
Temporal: $K_{temporal} = \frac{(\left(\frac{V}{v}\right)-1)}{T}$

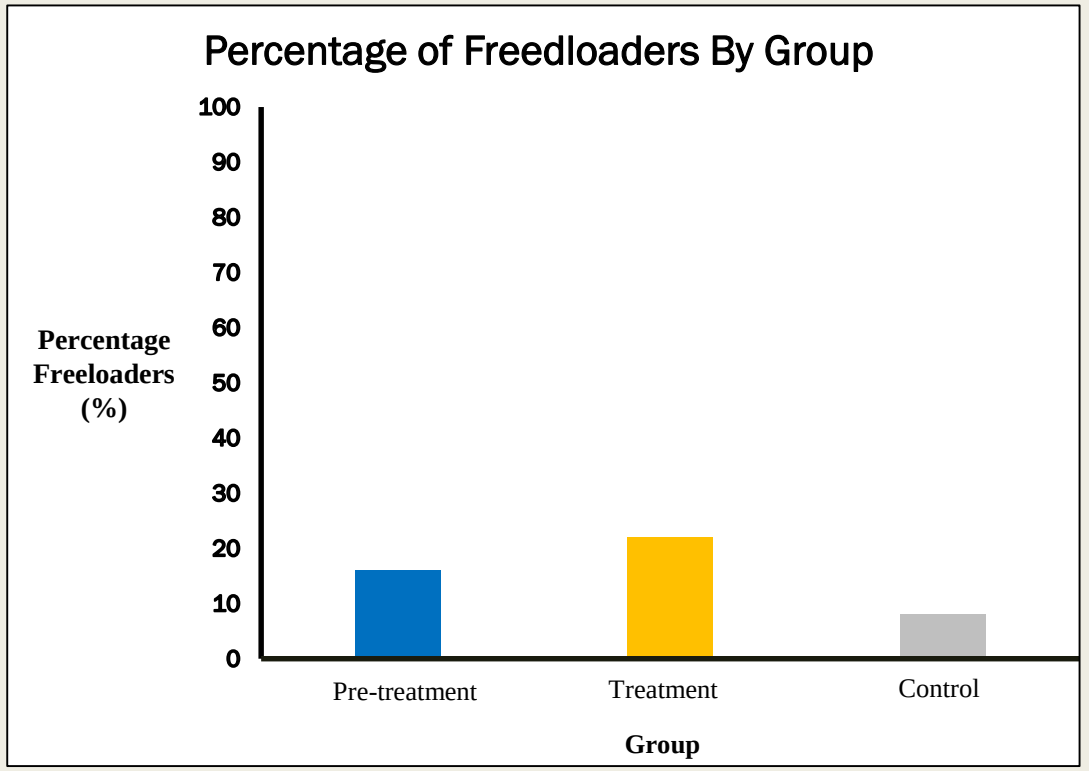
Probability: $K_{probability} = \frac{(\left(\frac{V}{v}\right)-1)}{\theta}$ **when** $\theta = \frac{1-P}{P}$

V=Undiscounted money amounts
v=Discounted money amounts
S=Social distance
T=Temporal distance
p=Probability of winning

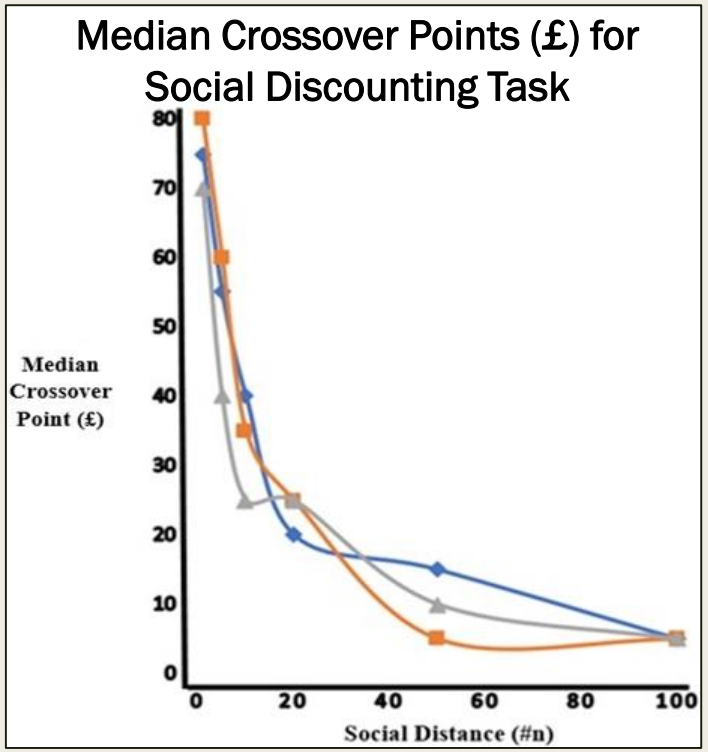
Jones et al. Delay, Probability, and Social Discounting in A Public Goods Game. *Journal of Experimental Analysis of Behaviour.* **91**, 61–73 (2009).

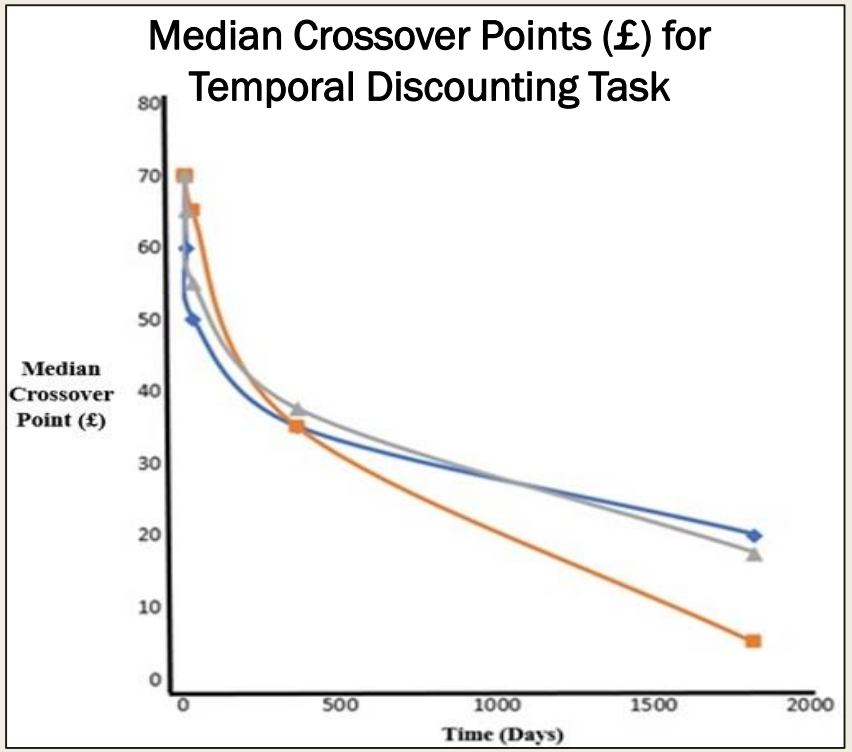
Quantitative Results (1 of 3)

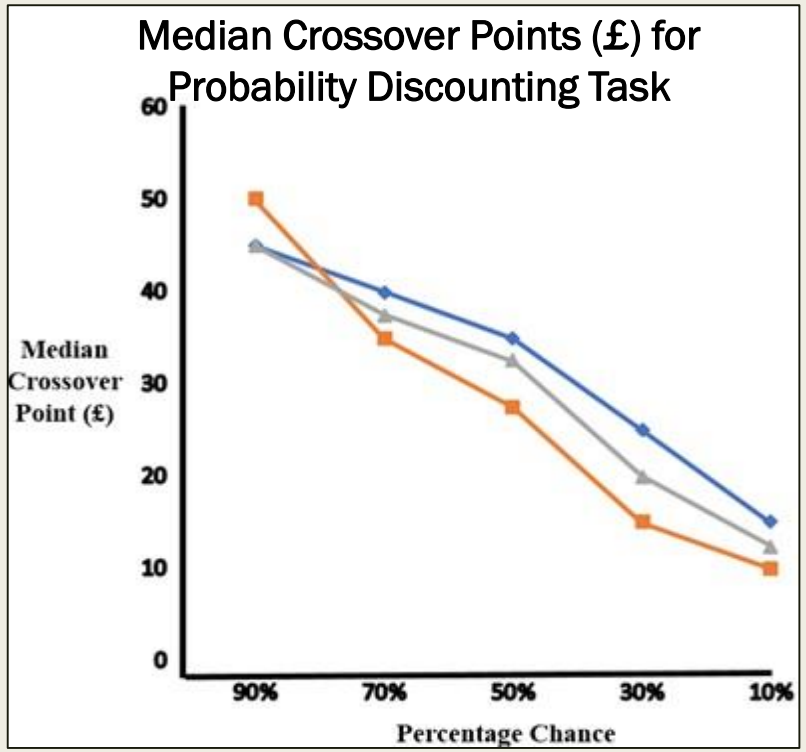




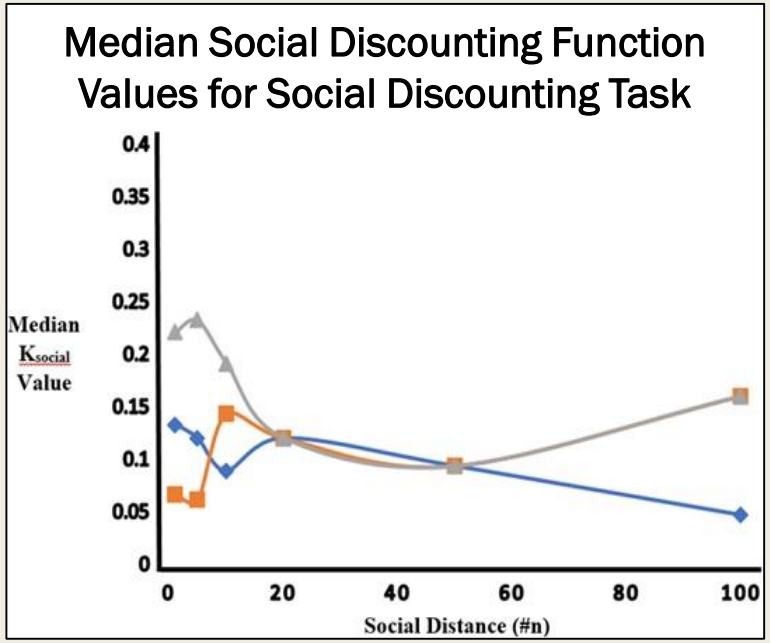
Quantitative Results (2 of 3)

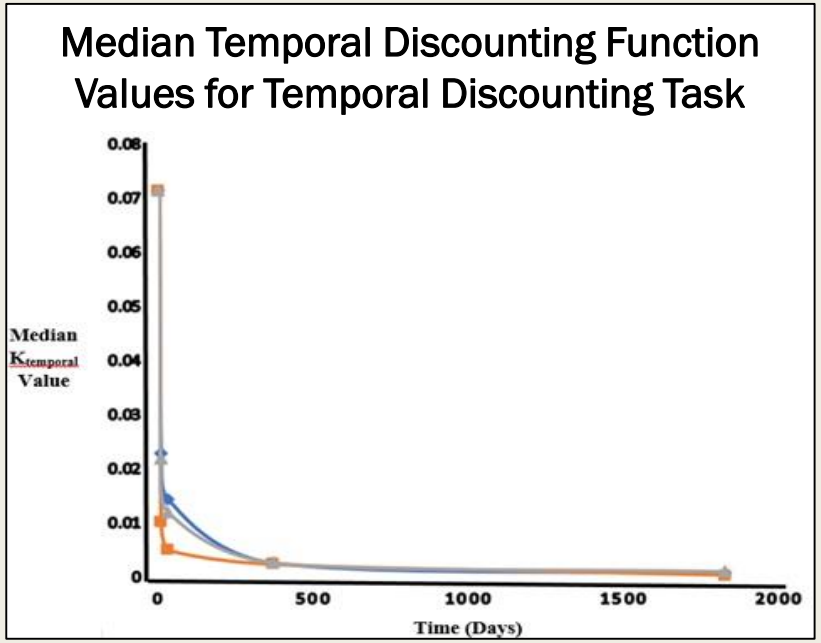


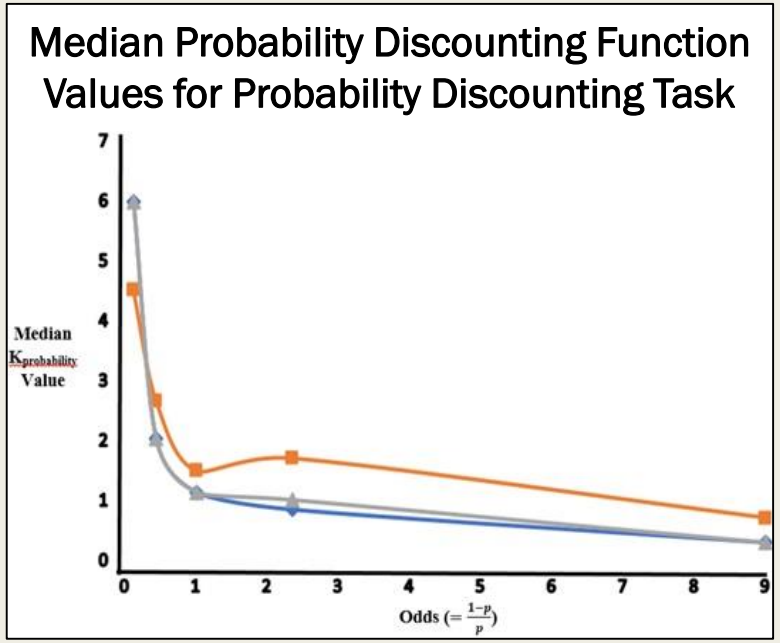




Quantitative Results (3 of 3)







Qualitative Methods (1 of 1)

- Participants were recruited from the therapy group who participated in the initial part of the study. A sub-set of 10 members participated in a ~45 minute **group interview** that followed a semi-structured approach.
- The interview was audio-recorded, and analysed using thematic analysis.

- Rationale in PGG?
- Explain trends for discounting tasks?
- Why no between group differences?
- Why did previous study find differences?
- Problems with study design?

Qualitative Results (1 of 3)

- Importance of **social connections** in group.

‘I trust this room, and I trust this group, and I trust the people here.’

‘Yeah because we all know each other… I’d think we’d all do the same’.

‘I feel I can trust people here’.

‘You…go through those 1st stages of developing the fact that you do belong here & actually it’s a positive thing’.

Qualitative Results (2 of 3)

- Increased **self-awareness** in group.

'You do feel to come out more than we do out of here, and it's because we all recognise that we've got the same problem, whereas if I was in a room with people without this borderline personality disorder I wouldn't, I would be shut down'.

'It seems… the expectation is that somebody with a BPD will be more selfish, be more impulsive'.

'People with personality disorder can be selfish'.

'I have no doubts in saying I've got a problem with spending money'

Qualitative Results (3 of 3)

- **Contrived** nature of tasks

'(In) borderline personality disorder … when something very painful… is triggered then … they are more likely to make a snap decision to be impulsive, to be more caught up'

'If they have just been abandoned, or there is a fear of that, that would be that very potent thing that in that moment, they might be less empathic, but another time when that's not been triggered, I wouldn't perceive a difference between anybody else.'

'People were still quite level headed, if they kind of got on a winning streak, then they might…' Interview asks 'because you couldn't see the outcome?' Responds 'Yeah'.

'It's not even money anyway'.

Discussion (1 of 2)

- The results of this study were somewhat surprising: most of the other work in this area would have **predicted inter-group differences.**
- The difference in this study was the **therapy group setting** in which the measures of social functioning were carried out.
- Extensive literature on the power of **'group conformity' influencing individual behaviour.**

Discussion (2 of 2)

- This interpretation supported by what was said in the qualitative interview: **trust and relationships in the group,** as well as an **increased awareness of trait behaviours** was central to the way the group interviewed explained the data.
- Group membership and **not specific therapy activities** was picked up upon as being key in driving these behaviours: this may explain why even the pre-treatment group behaved no differently to controls.

Limitations & Future Recommendations (1 of 2)

- **Contrived** nature of tasks: picked up upon in the group interview.
- Not possible to look at BPD participant's **behaviours outside group**.
- **Insufficient data to rule out medication differences** between groups being significant on behaviours.
- **Heterogeneity** of BPD.
- Data was only collected at **one time point.**

Limitations & Future Recommendations (2 of 2)

- Replicate findings with **greater sample size.**
- Another point of comparison: BPD patients in PGGs **not part of DTCs**.
- **Automated monitoring techniques**: behaviour outside of groups and across multiple time points.
- Continuation of **qualitative work**.

Thanks and Acknowledgements

- Dan Graham, Team Therapist.
- All group members who contributed.
- Oxfordshire Complex Needs Services.

Statistics

- Age: ANOVA.
- Gender: Chi-squared Test.
- Between group differences in proportion of freeloaders: Chi-squared Test.
- Median contribution PGG: Kruskal-Wallis Test.
- Data sets for social, temporal, and probability discounting tasks: Friedman Test.
- Between group differences at each level for social, temporal and probability discounting tasks: Kruskal-Wallis Test.

TEST	WHAT IT IS USED FOR?	ASSUMPTIONS?
ANOVA	Tests if there is any significant difference between means of 3(+) independent groups.	-Normal distribution. -Homogeneity of variance. -Independence of observations.
Chi-Squared Test	Tests if there is a significant relationship between 2 different categorical variables.	-2 variables categorical. -2(+) categorical variables independent groups.
Kruskal-Wallis Test	Tests if there is a significant difference between 2(+) groups of an independent variable on a ordinal or continuous variable.	-Dependent variable ordinal or continuous. -Independent variables 2(+) categorical independent groups. -Independence of observations. -Each group same shape distribution
Friedman Test	Repeated Measures test. Tests for difference between groups when dependent variable being measured is ordinal or continuous.	-Group measured 3(+) different occasions. -Group random sample from population. -Dependent variable ordinal or continuous. -Non-normal distribution.