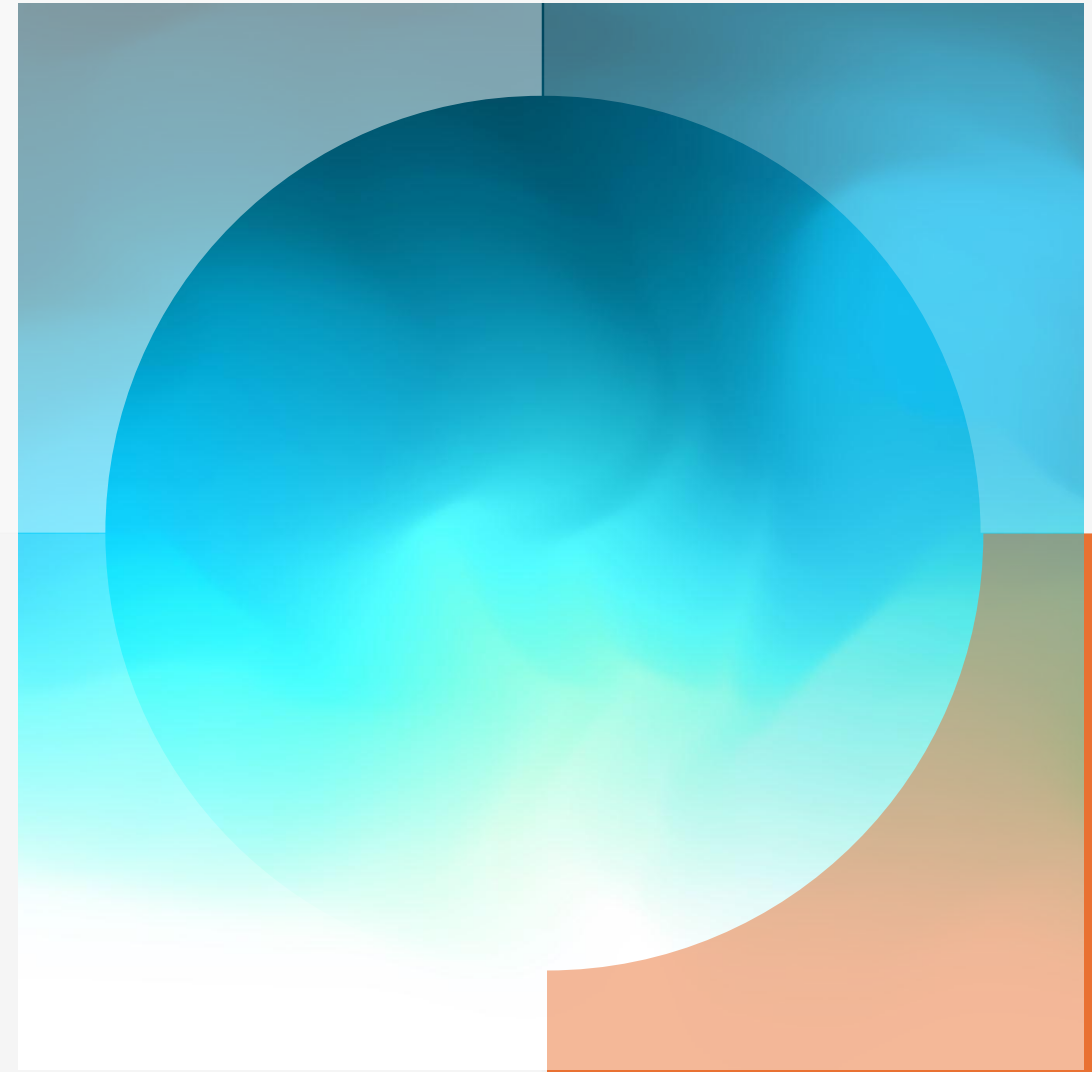




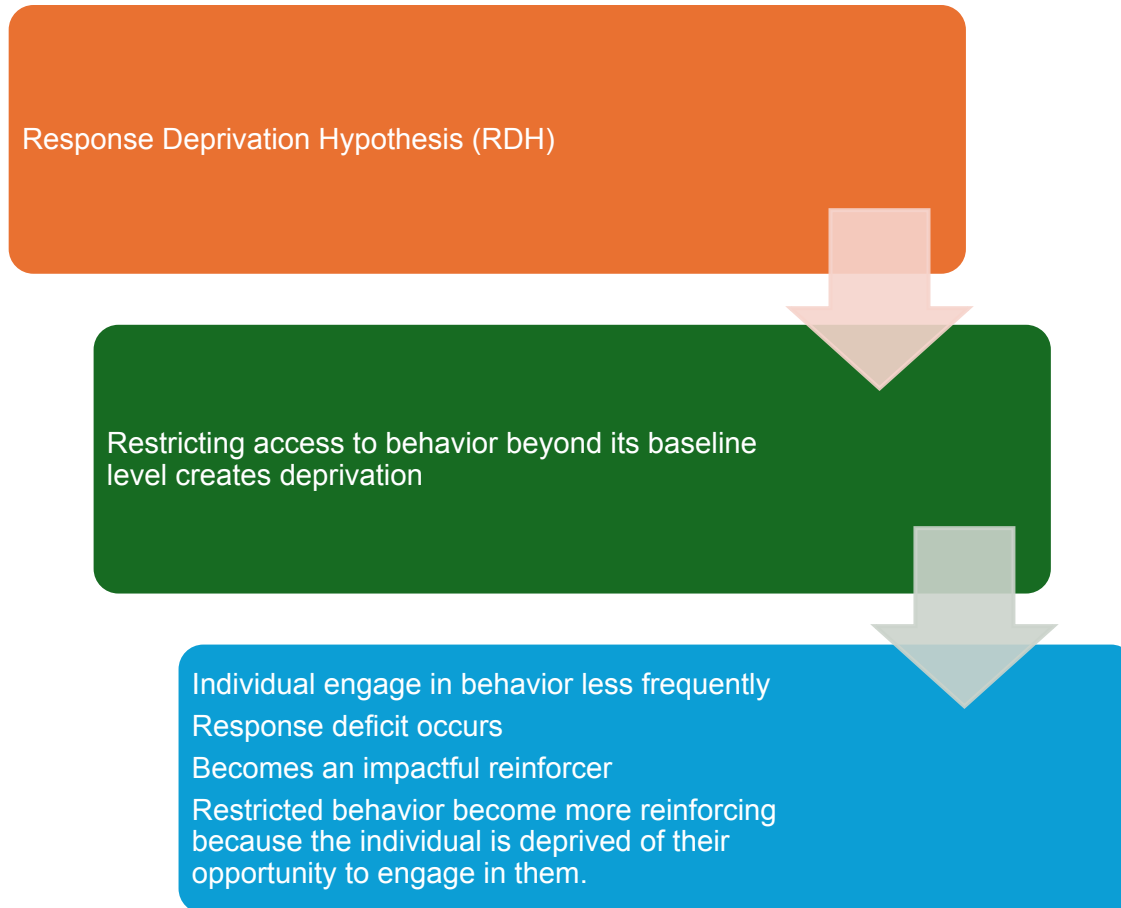
Using the disequilibrium theory in behavior change projects on homework and social media usage

Geoge de Merlier

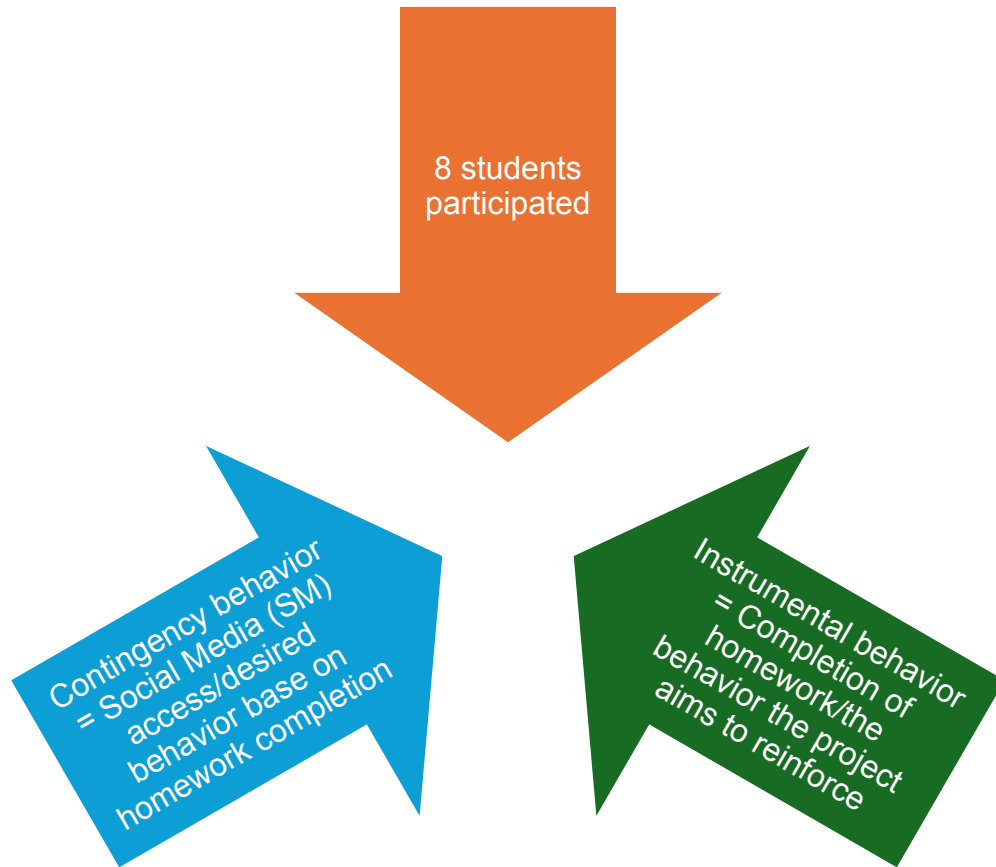
Paul Romanowich



The Disequilibrium Theory (background)



Behavior Change Project (method)



Student self-select level of SM access deficit
Baseline and treatment phase completed during
first 8 week of undergraduate learning and
behavior course

Statistical Significance – Homework (result)



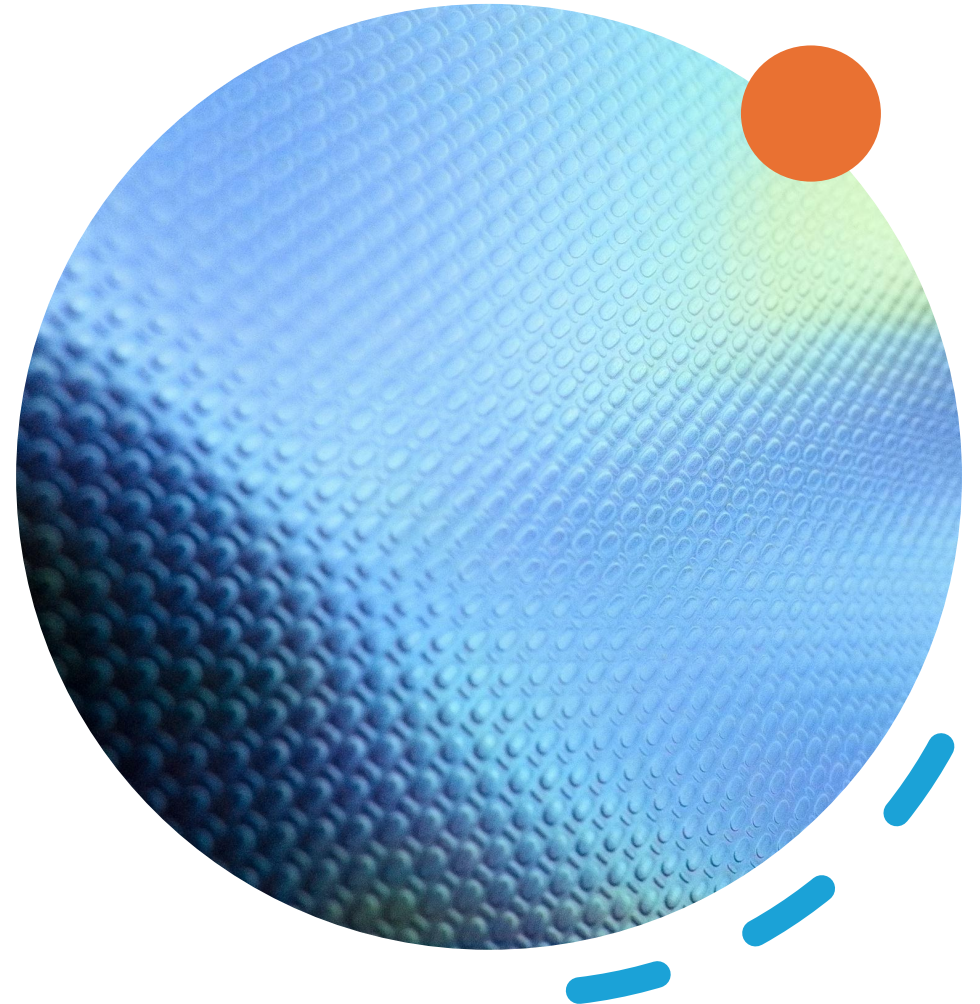
Students increase in daily homework rates compare to baseline phase



Reinforcement strategy motivates students to do their homework



Not socially significant/noticeable trend but sample size/average increase not statistically significant or consistent across participants



Statistical Significance – Social Media (result contd.)

Significant decreased in SM usage compared to baseline

Contingent access to SM on homework completion effectively reduced the time student spent on SM activities

Evidence of response deficit/reinforcement strategy successful in modifying behavior

Social validity measures/intervention method was useful, acceptable, meaningful and relevant to students

The results and implications of a behavior change project focused on increasing the homework rate among students by managing their social media use.



Result of homework rate:

- 6/7 (excluding one outlier) saw increase in homework rate during baseline and treatment phase

Prediction and effectiveness:

- inconsistent among participants – finite homework, weekend patterns, self-monitoring, project focus

Experimental limitations:

- Lack of experimental control over the contingency between homework and social media limits the establishment of causal relationship
- Project serve as a pedagogical tool for discussing causation and alternative explanation for behavior changes

Pedagogical Values:

Is the outcome correlational or experimental?

Project aligns with previous studies – enable students to understand causation versus correlational

Experimental design manipulate an independent variable, correlation designs does not.

Different experimental designs could be discussed versus the A-B design (baseline phase, followed by an intervention phase) used in the project – A-B-A design

Student reactions and implications:

Student rated the project positively

Student express discomfort during the project – experienced problematic social media use (PSMU)

Future project should include validated measures for PSMU, depression and anxiety to get a better understanding on behavior changes

Future directions:

Assessing psychological impact of social media use

Complexities and limitations of self-monitored behavior change project

Laboratory setting could provide more controlled over the project

Disequilibrium Framework

Viable Ways to Induce Change (Findings of study)



Individuals are motivated to change when faced with disequilibrium between current state and a desired goal



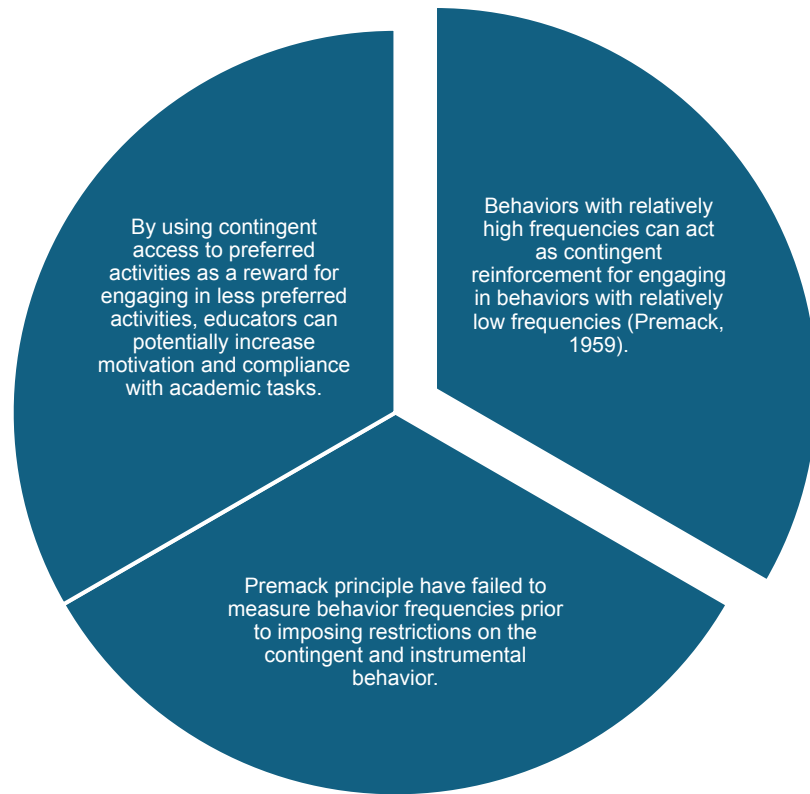
Behavior change projects are structured interventions designed to modify/influence behavior



Students can learn about measuring baseline behaviors, designing interventions based on operant rates, and evaluating the effectiveness of behavioral contingencies.

Socially significant behaviors/significant impact on lives and community – academic performance and time management
Disequilibrium theory is a valuable framework for promoting and producing change in behaviors.

Premack Principle (Introduction)



Disequilibrium Model of Reinforcement



The model predicts that reinforcement is more effective when:

Response Deficit: This refers to a situation where there is a deficit or lower occurrence of one behavior compared to another. For instance, if a student spends a lot of time on social media (SM) but does not complete homework assignments frequently, there is a response deficit in homework completion relative to social media use.

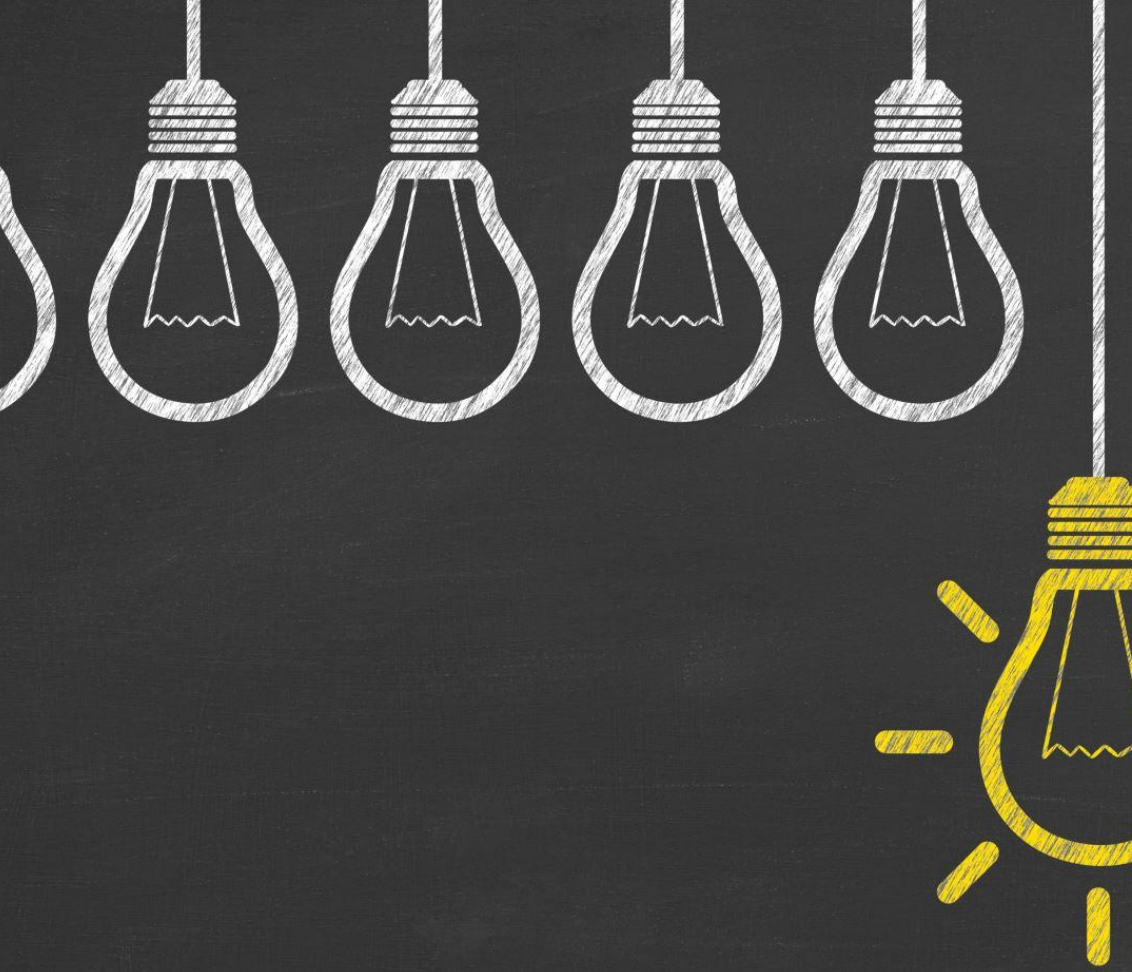
Operant Rate: This is the rate at which the behavior naturally occurs or is allowed to occur without restrictions. In the context of the example, it would be the natural rate at which the student engages in social media use.



REINFORCEMENT EFFECT:
THIS IS MOST LIKELY TO OCCUR WHEN THE BEHAVIOR WITH A DEFICIT (IN THIS CASE, HOMEWORK COMPLETION) IS RESTRICTED OR DEPRIVED (I.E., ACCESS IS LIMITED OR WITHHELD) COMPARED TO THE BEHAVIOR WITH A HIGHER OPERANT RATE (SOCIAL MEDIA USE).



DMR - MANIPULATING ACCESS TO BEHAVIORS WITH DIFFERENT FREQUENCIES (HIGH OPERANT RATE VS. LOW OPERANT RATE), ONE CAN EFFECTIVELY USE THE DEFICIT BEHAVIOR (RESPONSE DEFICIT) AS A FORM OF REINFORCEMENT TO INCREASE THE OCCURRENCE OF THE LESS FREQUENT BEHAVIOR.



Summary

In summary, the results highlight the potential effectiveness of using the disequilibrium model of reinforcement in behavior change projects targeting college-aged students. While there were challenges in achieving statistically significant quantitative changes in homework rates as predicted, the project demonstrated positive behavioral changes and social acceptability among participants. These findings suggest that while theoretical predictions do not always fully align with observed outcomes, behavioral interventions based on principles such as imbalance can still produce beneficial outcomes in educational settings..



Reference

Merlier, de G. & Romanowich, P. (2024). Using the disequilibrium theory in behavior change projects on homework and social media usage. *Behavioral Interventions*, 39(3), e2018. <https://doi.org/10.1002/bin.2018>