

Abstract

The following analysis explores the dependent and independent variables of the Stanford Prison Experiment (SPE), its underlying hypothesis, research design, its limitations as well as the robustness of the experiment's causal relationships.

1. The Dependent and Independent Variables in the Stanford Prison Experiment

The *independent variable* of the SPE is the random assignment of roles as either prison-guard or prisoner, also named 'single treatment variable' assigned in the SPE to either role as a 'condition'. The *dependent variable* is the measured individual- and group-behavior in its response (Haney et al., 1973, p.72-73). The independent variable acts as the cause while the dependent variable represents the effect or measured outcome of the experiment.

2. The Hypothesis

Haney, Banks & Zimbardo start methodologically by evaluating what they call the 'dispositional hypothesis' (Haney et al., p.70-71) which is expressed by the implicit idea that an institution's identity or state is defined by the traits and characteristics of its population. The critical deductive structure to prove the 'dispositional hypothesis' could more abstractly be described as follows:

Premise: Type A persons (persons with attributed negative traits) display negative pathological behavior $B_{(-)}$ in a likewise negative environment $E_{(-)}$ while type B persons (persons with regular characteristics), display regular behavior $B_{(+)}$, given a regular environment $E_{(+)}$.

Conclusion 1: If Type B persons are set within a negative environmental situation $E_{(-)}$ and still show no difference in behavior then the environmental factor obviously renders no causal efficacy.

Alternative Conclusion 2: If Type B persons are set within a negative environmental situation $E_{(-)}$ and start displaying pathological group-behavior $B_{(-)}$ then the environmental conditions remain left as the only key-variable for creating such behavior, independently from the typos of persons populating an institution.

Hanley, Banks & Zimbardo derive at conclusion no. 2 by observing pathological and anti-social behavior among Type B persons in less than a week and subsequently attribute environmental-situational factors to the outcome of the experiment. They clearly mention "*The abnormality here resided in the psychological nature of the situation and not those who passed through it.*" (Hanley et al., p.90).

3. Research Design

The design of the SPE could be described as an experimental-observational design which is both unstructured and quasi-longitudinal. Experimental means that the authors of the study employ random role-assignments as described. However, the study employs no treatment group that could be measured against a control group for comparison, so the SPE does not employ a clear-cut experimental design. The study is also quasi-longitudinal since data is collected over time in order to measure behavioral changes of the panel, however with the restriction that the time-frame for measuring changes only extended to a mere six days. The design is not a quasi-experimental design since in quasi-experimental design the assignment to groups is not random. The attribution to observational design seems more adequate since newly evolving behavior had been watched and has subsequently been collected as occurring data.

4. Limitations

The following general limitations can be attributed to the SPE:

- 4.1. Due to ethical concerns the experiment cannot be repeated independently which is a key criteria for any scientific study.
- 4.2. The small sample size of only 21 participants does not constitute a representative panel which would justify a generalization of the study's outcome.
- 4.3. Due to the lack of a control group the resulting behavior cannot be measured against behavior of the treatment group, leading to ambiguity in the interpretation of the final result.
- 4.4. The SPE has little to no external validity since the conditions of a real-world prison cannot be replicated by a mock-up prison.

- 4.5. The research design minimized individual differences by selecting a 'homogenous middle-range subject population' (Haney et al., p.90). Although this weakness is defended by assertions from the study's authors that variations in behavior were sufficiently attributed to situational factors, the strength of the minimizing effect itself cannot be measured for simple lack of comparison.
- 4.6. In the SPE participants were indirectly prompted to act out roles in a predictable manner and the intentionally unstructured facilitation of behavior (Haney et al., p.75) supported the emergence of abusive behavioral pattern. Haslam & Reicher critique Zimbardo "*That is, not only is he the source of malevolent leadership (like Milgram's experimenter), but he also actively encourages the guards to identify with his leadership.*" (Haslam & Reicher, 2008, p.18).
- 4.7. The situation of a role-play differs greatly from a real-world situation where behavior has consequences. Banuazizi & Movahedi discredit role-play as a reliable research methodology and argue that role-plays lead to the acting out of stereotypes (Banuazizi & Movahedi, 1975, p.159).

5. The Robustness of Causal Relationships

The main conclusion of the SPE is that social roles and situational factors determine the behavior of the individual to a point where individual identity is lost. Christine Maslach writes as an independent observer of the SPE "*The power of the situation to overwhelm personality and the best of intentions is the key story line here.*" (Zimbardo, Maslach & Haney, 1996). This view is challenged by newer models of social identity (Haslam & Reicher, 2012). It is also still open to debate if in a structured and more cooperative environment the alternative conclusion 1 (in point 2), would be the more likely behavioral outcome. Given the limitations of the SPE the causal relationships at hand cannot be considered as robust.

References

- Banuazizi, A., & Movahedi, S. (1975). Interpersonal dynamics in a simulated prison: A methodological analysis. *American Psychologist*, 30, 152-160.
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- Haslam, S., & Reicher, S. D. (2012). When prisoners take over the prison: A social psychology of resistance. *Personality And Social Psychology Review*, 16(2), 154-179. doi:10.1177/1088868311419864
- Haslam, S., & Reicher, S. D. (2008). Questioning the banality of evil. *Psychologist*, 21(1), 16-19.
- Zimbardo, P. G., Maslach, C., & Haney, C. (1996). REFLECTIONS ON THE STANFORD PRISON EXPERIMENT: GENESIS, TRANSFORMATIONS, CONSEQUENCES. In Stanford Prison Experiment. Retrieved July 3, 2012, from <http://www.prisonexp.org/pdf/blast.pdf>

Post Scriptum: Research Study Critique Rubric for the Stanford Prison Experiment

The page numbers in the table below refer to the original paper by Haney, C., Banks, C., & Zimbardo, P. (1973). *Interpersonal dynamics in a simulated prison*. *International Journal of Criminology and Penology*, 1, 69-97.

	Criteria	Description	Justification and Reference	Total Points
1	Purpose of research	Vague and wordy	The failure of contemporary American prisons is claimed without substantiating data (p.70) and a practical purpose is not formulated at any point. The main purpose of the study is to test the ' <i>dispositional hypothesis</i> ' (p.71). References to literature are few for a study of this magnitude with only 11 references made, mainly related to support claims rather than for critical debate. Referenced literature by Adorno or Seligman e.g., is not further discussed in context and only quoted (p.97). Most literary sources appear rushed towards the end of the study (pp.90-97).	1
2	Problem statement	Vague and wordy	The problem statement is vague as the issues of rehabilitation, the role of prisons as deterrents and recidivism are raised without further elaboration (p.70). The inhumane treatment of prisoners is brought up and the argument that the problem may lie in the environmental-situational and not personal traits of the inmates, the "bad seeds" versus "prison soil" question (p.71), leaving the reader guessing that this is the key problem of the study.	1
3	Human subjects approval	Rationale not specific	Approval of human subjects for the SPE had been granted by the Stanford Human Subjects Committee and the Stanford Psychology Department, curiously with no mention of the approval in the actual study. It is stated that participants were disclosed the concept of experiencing a prison simulation, that participation is voluntary and why a background check was necessary to ensure average test subjects with no record of pathological behavior. The relevance of the criteria is however not specified further with the exception of explaining why pre-existing friendship patterns may disrupt the study (p.73).	2
4	Research questions or Hypothesis	Understandable	The main hypothesis is understandable, although not clearly stated. The authors of the study refer to an implicit concept "what might be called the <i>dispositional hypothesis</i> " (p.70), which would have required further clarification	2
5	Research design	Vague with some accuracy	The authors explain the 'single treatment variable' as well as the 'dependent measures', latter falling into the categories of group-transactions as well as well as observed individual behavior (pp.72,73). The general conceptual research design of the study has not been outlined. The rationale of using the e.g., the Comrey Personality Inventory Scale (p.82) has not been clarified.	1
6	Findings	Understandable with only part of the data to support claim	Findings are captured in the section 'Results' (p.80). Anecdotal evidence is claimed to be supported. General negativity is stated, illustrated most drastically by five participants leaving the experiment due to extreme emotional depression (p.81). Situational descriptions from the video-recordings and key-events are quoted and interpreted with no references made to research data.	2
7	Conclusions, Interpretations of results	Vague and wordy, only partially accurate	The authors conclude the change of regular and normal participants into either helpless prisoners or abusive, even sadistic guards. Data is not used to substantiate the conclusion and the language used for the interpretation of results is mostly vague and stereotyping, e.g. "the typical prisoner syndrome", "normal, healthy American college students", "sadistic types" etc. (p.89, Conclusion and Discussion).	1
8	Recommendations	Incomprehensible	It is mentioned that the study had to be terminated prematurely (p.81), however without explanation and any recommendations made in the original study.	0
9	Research utilization	Model not identified, no strategies for implementation	The authors of the study seem unaware about their actual research design despite identifying dependent and independent variables; subsequently the applied methodology follows no particular strategy. The intentionally unstructured approach is quoted in the study, e.g., guards were only given minimal instructions (p.75).	0