

Debunking the Stanford Prison Experiment

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Abstract

The Stanford prison experiment (SPE) is one of psychology's most famous studies. It has been criticized on many grounds, and yet a majority of textbook authors have ignored these criticisms in their discussions of the SPE, thereby misleading both students and the general public about the study's questionable scientific validity. Data collected from a thorough investigation of the SPE archives and interviews with fifteen of the participants in the experiment further question the study's scientific merit. These data are not only supportive of previous criticisms of the SPE, such as the presence of demand characteristics, but provide new criticisms of the SPE based on heretofore unknown information. These new criticisms include the biased and incomplete collection of data, the extent to which the SPE drew on a prison experiment devised and conducted by students in one of Zimbardo's classes three months earlier, the fact that the guards received precise instructions regarding the treatment of the prisoners, the fact that the guards were not told they were subjects, and the fact that participants were almost never completely immersed by the situation. Possible explanations of the inaccurate textbook portrayal and general misperception of the SPE's scientific validity over the past five decades, in spite of its flaws and shortcomings, are discussed.

Keywords: Stanford prison experiment, P. G. Zimbardo, epistemology

Debunking the Stanford Prison Experiment

To show that normal people could behave in pathological ways even without the external pressure of an experimenter-authority, my colleagues and I put college students in a simulated prison setting and observed the power of roles, rules, and expectations. Young men selected because they were normal on all the psychological dimensions we measured (many of them were avowed pacifists) became hostile and sadistic, verbally and physically abusing others – if they enacted the randomly assigned role of all-powerful mock guards. Those randomly assigned to be mock prisoners suffered emotional breakdowns, irrational thinking, and behaved self-destructively – despite their constitutional stability and normalcy. This planned two-week simulation had to be ended after six days because the inhumanity of the “evil situation” had totally dominated the humanity of the “good” participants. (Zimbardo, 1983, p. 62)

Conducted by Philip Zimbardo in 1971, the Stanford prison experiment (SPE) is generally regarded as one of the most famous experiments in psychology. It has been featured in documentaries, television reports, magazines, and newspapers (e.g., Mirsky & Duke, 2002; “I almost considered the prisoners as cattle,” *Life*, 1971), and it has been summarized in dozens of handbooks in psychology, sociology, philosophy, criminology, penology, and methodology (e.g., Aronson, 1972, pp. 10-11; Arrigo & Milovanovic, 2009, pp. 23-27; Bordens & Abbott, 2005, p. 116 & p. 178; Cartwright, 2014, pp. 167-168; Gerstenfeld, 2010, p. 103; Giddens, 1991, pp. 40-41). It is a common reference in the literature on genocides, evil, and aggression (e.g., Bauman, 1989, pp. 166-168). It has also inspired novels (e.g., Giordano, 1999) and three feature films (Bratman & Alvarez, 2015; Conrad & Hirschbiegel, 2001; Adelstein & Scheuring, 2010).

In the past 47 years, the SPE has been widely criticized. Based on the first detailed published account of the experiment (Zimbardo, 1972a), Erich Fromm pointed out (1) the unethical nature of the harsh conditions imposed on the prisoners, (2) the fact that the personality pretests administered to the volunteers might not have detected a predisposition among some of the subjects for sadistic or masochistic behavior, and (3) the confusing situation for participants created by mixing realistic prison elements with unrealistic ones. Fromm also argued against Zimbardo’s situationist explanation of the SPE, pointing out that,

because “two thirds of the guards did not commit sadistic acts for personal ‘kicks,’ the experiment seems rather to show that one can *not* transform people so easily into sadists by providing them with the proper situation” (Fromm, 1973, p. 57-58).

Banuazizi and Movahedi (1975) examined the possibility of demand characteristics operating in the SPE. They provided 150 college students with a description of the procedure used in the SPE, the advertisement used by Zimbardo to recruit volunteers for the SPE, a description of the rights and privileges the subjects agreed to waive in order to participate, and a description of the arrest and incarceration procedures in the SPE. Banuazizi and Movahedi used a set of open-ended questions to determine the students’ thoughts as to what the experimenter’s hypothesis was and their expectations regarding the outcome of the experiment. 81% percent of the tested students accurately figured out the experimenter’s hypothesis (that guards would be aggressive and that prisoners would revolt or comply), and 90% predicted that the guards would be “oppressive, hostile, aggressive, humiliating” (p. 158), thereby supporting the argument that demand characteristics were likely operating in the SPE and that the participants in the SPE would have probably guessed how Zimbardo and his co-experimenters wanted them to behave.

Lovibond, Mithiran, and Adams (1979) extended the SPE by studying the effects of changes in the social organization of prison environments. Some aspects of the study replicated the SPE (e.g., volunteers were screened for possible psychological disorders), and some did not (e.g., the prisoners wore standard prison uniforms). 60 male volunteers were selected from a set of respondents to a newspaper advertisement. Three experimental prison regimes were examined. The Standard Custodial regime was modeled on existing medium-high security prisons; the more liberal Individualized Custodial regime allowed the prisoners some individuality and self-respect; and the Participatory regime encouraged the guards to engage in constructive and responsible behavior with the prisoners. The three regimes led to strikingly different guard-prisoner relationships. The Standard Custodial regime led to much hostility between the prisoners and guards, but the guard-prisoner relationships in the other

two regimes were rather benign and different from that observed in the SPE, supporting the argument that Zimbardo and his co-experimenters' guidance and demand characteristics likely played a major role in the SPE's outcome.

In 2002, two British social psychologists, Alex Haslam and Stephen Reicher, conducted a prison experiment similar to the SPE in collaboration with the BBC (Haslam & Reicher, 2003; Reicher & Haslam, 2006). Filmed by the BBC and shown on television in 2002, this study was not an exact replication of the SPE, and neither Haslam nor Reicher took on a leadership role in the prison or provided guidance for the guards as Zimbardo had done in the SPE. The findings were also different from those in the SPE, again supporting the argument that Zimbardo's guidance and demand characteristics likely played a major role in the outcome of the SPE. Reicher and Haslam concluded that "people do not automatically assume roles that are given to them in the manner suggested by the role account that is typically used to explain events in the SPE" (2006, p. 30).

A few years later, based on a replication of the selection process of the SPE, Carnahan and McFarland argued that the participants in the SPE might have been *self-selected*. According to them, "men who choose to volunteer for a study advertised as a 'psychological study of prison life' may well be drawn to it because of a fit to their particular personalities. Indeed, it is hard for us to imagine otherwise, particularly so because the study is advertised as lasting more than a week and would likely place participants in an unusual and intense situation" (Carnahan & McFarland, 2007, p. 605).

Other critiques have mainly been interpretations of the accounts of the SPE published by Zimbardo – accounts which were inaccurate and biased, as we shall see. These critiques emphasized in particular that Zimbardo, acting as prison superintendent, essentially indicated to the guards how to behave during his guard orientation (e.g., Bartels, 2015; Gray, 2013; Griggs, 2014; Haslam & Reicher, 2012; Krueger, 2008). Yet, they did not offer new data from which to evaluate the scientific validity of the SPE.

The SPE has also been widely criticized for its unethical treatment of the participants

(e.g., Savin, 1973). Apart from this ethical criticism, Zimbardo has ignored or attempted to refute his detractors (e.g., Haney & Zimbardo, 2009; Resnick, 2018; Zimbardo, 2006). It appears that his attempts have succeeded, because a recent series of content analyses of psychology and criminology textbooks revealed little coverage of these criticisms (Bartels, 2015; Griggs, 2014; Griggs and Whitehead, 2014; Kulig, Pratt and Cullen, 2017). Textbook authors who doubted the veracity of the SPE seem to have simply chosen not to include it in their textbooks, as did Peter Gray (2013), leaving other authors the possibility to continue to publicize it.

Unlike the previous studies on the SPE, the present study is a comparison between Zimbardo's published accounts since 1971 of what happened in the SPE and what actually happened according to the archives of the SPE in the Stanford University Library (donated by Zimbardo in 2011), supplemented by the SPE archives in the Archives of the History of American Psychology at the University of Akron. The intent of the study was to determine if the SPE archives revealed any important information about the SPE that had not been included in, and, more importantly, was in conflict with that reported in Zimbardo's published accounts of the study. To the best of my knowledge, I am the first person to conduct a thorough investigation of the SPE archives, a puzzling situation that I will address later in the paper.

Method

I began the study with a thorough reading of all of the publications authored or co-authored by Zimbardo that discussed the SPE. Almost all of these documents have been digitized by the Stanford University Library and are researchable in plain text (Zimbardo, 2016), which allowed me to conduct searches for the occurrence (or absence) of certain words, names and expressions (such as "Toyon Hall", "David Jaffe", and "demand characteristics"). Next, I conducted a content analysis of the SPE archival material kept at the Special Collections and University Archives, Stanford University Library (16 boxes) and at the

Archives of the History of American Psychology, University of Akron, Ohio (1 box). This entailed analyzing hundreds of paper documents, 6 hours of film recordings made during the experiment, and 48 hours of audio recordings made during, before and immediately after the experiment. Some of these documents have been digitized and made researchable in plain text, which facilitated this analysis.

The findings from the archival content analyses were supplemented in two ways. First, semi-structured phone interviews were conducted between May 2017 and December 2017 with 15 participants in the SPE. Given the fact that the events took place 47 years ago, these interviews were mainly used to corroborate findings from the archival content analysis. Second, the archival content findings were compared with the textbooks, academic publications, and nonfiction books referring to the SPE, along with text searches on Google, Google Scholar, and Google Books for any additional discussions of the SPE.

Results

The description and discussion of the archival content analysis will be structured around seven main findings: (1) in designing the SPE, Zimbardo borrowed several key elements from a student experiment conducted 3 months before, (2) the guards knew what results Zimbardo wanted to achieve and how to achieve them, (3) the guards were asked to play a specific part but were not informed that they were subjects, (4) the prisoners could not leave of their own will and were subjected to harsh conditions designed by the experimenters, (5) the participants were almost never completely immersed in the unrealistic prison situation, (6) the collection and the reporting of the data were incomplete and biased, and (7) the conclusions of the SPE had been written in advance according to non-academic aims.

I must add that a debate recently occurred online after the publication, in June 2018, of an article by journalist Ben Blum (Blum, 2018), which contained some findings taken from my book published a month and a half earlier in France (Le Texier, 2018). Zimbardo published a response to the main critiques raised by Blum on the official website of the SPE

(Zimbardo, 2018), but his response did not address most of the findings and arguments presented in my book and this paper, although he was aware of them: I sent him the first version of this paper on April 10, 2018.

A detailed discussion of each of the seven main findings follows.

The SPE was modeled after a student experiment: The Toyon Hall experiment

According to Zimbardo's accounts of the SPE, the experiment was born out of his former studies. For instance, Zimbardo told a Toronto Symposium in 1996:

I had been conducting research for some years on deindividuation, vandalism and dehumanization that illustrated the ease with which ordinary people could be led to engage in anti-social acts by putting them in situations where they felt anonymous, or they could perceive of others in ways that made them less than human, as enemies or objects [...] [I wondered] what would happen if we aggregated all of these processes, making some subjects feel deindividuated, others dehumanized within an anonymous environment in the same experimental setting, and where we could carefully document the process over time. ("The Stanford prison experiment: Still powerful after all these years," *Stanford Report*, 1997, p. 8)

The archives disclosed in fact that the SPE grew out of a student experiment that took place in a Stanford University dormitory in May 1971, under the direction of one of Zimbardo's undergraduate students, David Jaffe (a fact noted in Haslam & Reicher, 2017, p. 133, but not investigated). Earlier in 1971, Zimbardo had proposed to the students in his seminar for undergraduates that they make presentations for half of the class meetings. Among the topics he proposed for them to consider were the impact of old age homes on their inmates, the street culture of the drug addict, people joining cults, and the effects of prisons on prisoners (Burton, 2016; Zimbardo, 2007a, p. 495).

Jaffe and four other students picked the prison topic, and Jaffe took charge of the group. He read about prisons and visited a county jail in San Mateo; he met an ex-convict, Carlo Prescott; but he had difficulty motivating his group. A graduate student in psychology, Terry Osborne, suggested that he simulate a mock prison during a weekend, and when Jaffe proposed the idea to his group it was accepted, as Jaffe wrote a few weeks later in a report

never quoted before, to which the following description owes much (Jaffe, 1971, p. 3).

The experiment took place on May 15 and 16, 1971, in the Toyon Hall dormitory, where Jaffe resided. It involved six guards, six prisoners, and a director (Jaffe). At first, the prisoners tried to assert their individuality, but soon they obeyed the guards – with one exception, a female student who would fight their authority until the end.

When the group presented the results of the study in class, Zimbardo was apparently very interested and asked the five students to file a report. Jaffe introduced him to the ex-convict Carlo Prescott, and, impressed by his personality, Zimbardo invited him to teach a summer seminar in July and August. Prescott became a consultant for the SPE, and Jaffe would serve as the prison warden.

Zimbardo copied several elements of the SPE from the Toyon Hall experiment: how the prisoners were formally arrested, how a chain was attached to their ankle, how they were stripped and had to wear a uniform with a number when they arrived at the mock prison, and how they had to follow a schedule including counts, physical exercises, and cleaning the rooms. Besides, whereas Zimbardo has always asserted that “the guards made up their own set of rules” (Zimbardo & White, 1972, p. 4), the archives show that, out of the 17 rules of the SPE, 11 were directly copied from the Toyon Hall experiment (see Supplemental Material A). The 6 remaining rules were mere adaptations to the space and the length of Zimbardo’s experiment, such as rule #6 which forbade prisoners from playing with light (there was no switch in the Toyon Hall’s cell) or rule #11 which did not prohibit smoking, as in the dormitory experiment (several days without smoking must have appeared too severe), but which declared that “smoking is a privilege” granted “at the discretion of the guards.”

In spite of its foundational role, Zimbardo did not mention the Toyon Hall experiment in the slide-show he used for 20 years to present the experiment (Zimbardo & White, 1972), in the documentary which replaced this slide-show (Musen & Musen, 1992), or in the articles he published on the SPE. The first academic account of the SPE refers to the Toyon Hall experiment only in the acknowledgments: “We wish to extend our thanks and appreciation for

the contributions to this research by David Jaffe who served as ‘warden’ and pre-tested some of the variables in the mock prison situation.” (Haney, Banks & Zimbardo, 1973, p. 97). An article published in 1999 briefly mentioned the Toyon Hall experiment (Zimbardo, Maslach & Haney, 1999, p. 204), and *The Lucifer Effect*, the book which Zimbardo devoted to the experiment 36 years later, speaks of it only in an end note where he acknowledges that the rules used in his experiment “were an extension of those that Jaffe and his comrades had developed for their project in my social psychology class” (Zimbardo, 2007a, p. 495), without specifying what this project was about. In 47 years, Zimbardo has given the Toyon Hall experiment some credit only once, in a lengthy biographical interview published in 2016 in digital form (Burton, 2016). Otherwise, David Jaffe is rarely credited as an instigator of the SPE, and he is hardly mentioned in articles and reports devoted to it. On the contrary, Zimbardo often presents him as “Warden David Jaffe, also an undergraduate student” (Zimbardo & White, 1972, p. 4), suggesting that he was one of the volunteers, and not one of the experimenters.

Experimenters are of course entitled to replicate an experiment. Yet, when they do so, they have to explain which elements they drew from the previous experiment and which ones they chose to dismiss or modify, and why. Several key elements of the SPE have been presented as imagined by the guards (such as the rules and the daily schedule), when in fact these elements were directly drawn from the Toyon Hall experiment.

The guards were trained

Over the years, Zimbardo has maintained that the guards and the prisoners were left free and reacted spontaneously to the situation. In his first academic paper on the SPE, he stated, for instance, that “neither group received any specific training in these roles” (Haney, Banks & Zimbardo, 1973, p. 69). He asserts similarly in *The Lucifer Effect* that the “guards had no formal training in becoming guards, were told primarily to maintain law and order, not to allow prisoners to escape, and never to use physical force against the prisoners, and were

given a general orientation about the negative aspects of the psychology of imprisonment” (Zimbardo, 2007a, p. 56).

According to the official accounts of the SPE, the guards invented on their own an impressive array of mistreatments:

Upon arrival at our experimental prison, each prisoner was stripped, sprayed with a delousing preparation (a deodorant spray) and made to stand alone naked for a while in the cell yard. (Haney, Banks & Zimbardo, 1973, p. 76)

Nakedness was a common punishment, as was placing prisoners’ heads in nylon stocking caps (to simulate shaved heads); chaining their legs; repeatedly waking them throughout the night for hour-long counts; and forcing them into humiliating “fun and games” activities. (Zimbardo, 2007b, p. B7)

After 10 p.m. lockup, toilet privileges were denied, so prisoners who had to relieve themselves would have to urinate and defecate in buckets provided by guards. (Zimbardo, Banks, Haney & Jaffe, 1973, p. 39)

After the rebellion on the second day, the guards... take the blankets off the prisoners’ beds in Cells 1 and 2, carry them outside the building, and drag them through the underbrush until the blankets are covered with stickers or burrs. Unless prisoners don’t mind being stuck by these sharp pins, they must spend an hour or more picking out each of them if they want to use their blankets. (Zimbardo, 2007a, p. 59)

After the first day of the study, practically all prisoners’ rights (even such things as the time and conditions of sleeping and eating) came to be redefined by the guards as “privileges” which were to be earned for obedient behavior. (Haney, Banks & Zimbardo, 1973, p. 94)

Push-ups soon become a staple in the guards’ control and punishment tactics. (Zimbardo, 2007a, p. 45)

Far from encouraging this violence, Zimbardo is supposed to have prevented the guards from giving themselves completely over to it. He explained, for instance, during the trial of one of the Abu Ghraib guards, for which he served as expert witness: “I would typically intervene if a guard was being abusive...I was seen as the liberal administrator who was really protecting the prisoners” (Frederick, 2004, p. 574).

The archival materials reveal that this narrative of guards becoming spontaneously violent is inaccurate, for at least five reasons.

(1) *The guards knew what results the experiment was supposed to produce.* Zimbardo and his assistants announced the objectives of the experiment to the guards during their

orientation day, Saturday, August 14, 1971. Zimbardo confided to the future guards that he had “a grant to study the conditions which lead to mob behavior, violence, loss of identity, feelings of anonymity. [...] [E]ssentially we’re setting up a physical prison here to study what that does and those are some of the variables that we’ve discovered are current, those are some of the psychological barriers. And we want to recreate in our prison that psychological environment.” (Tape 2, 1971, transcription p.3 and p. 2). The orientation has been filmed, and we see Zimbardo, saying that, pointing to a blackboard where Jaffe had copied the list of variables that his teacher gave him:

Boredom

Frustration

Fear

Arbitrariness

Loss of privacy

Loss of freedom of action

Loss of individuality

Powerlessness (no decision-making) (Prison #20, undated. List handwritten by Zimbardo on a document entitled: “Outline for guard orientation,” undated, p. 3)

The guards were also trained in the sense that they were given general lines of action. They knew that they must produce a “psychological environment” because the “physical prison” did not suffice to arouse it on its own. The *situation* of which the effects were to be observed was not only a material and symbolic device, it was also and mainly a set of *interactions* of which the guards had to have the initiative. So the prisoners were driven to revolt or to despondency probably not by an abstract situation, but by a regime of incarceration imagined by the experimenters and applied with more or less zeal by the guards.

(2) *Far from reacting spontaneously to this pathogenic social environment, the guards were given clear instructions for how to create it.* For example, Zimbardo explained to them during the guard orientation day, as noted by several critiques before and after the publication of *The Lucifer Effect* (e.g., Gray, 2013; Krueger, 2008; Reicher & Haslam, 2006):

We can create boredom. We can create a sense of frustration. We can create fear in them, to some

degree. We can create a notion of the arbitrariness that governs their lives, which are totally controlled by us, by the system, by you, me, Jaffe. They'll have no privacy at all, there will be constant surveillance – nothing they do will go unobserved. They will have no freedom of action. They will be able to do nothing and say nothing that we don't permit. We're going to take away their individuality in various ways. They're going to be wearing uniforms, and at no time will anybody call them by name; they will have numbers and be called only by their numbers. In general, what all this should create in them is a sense of powerlessness. We have total power in the situation. They have none. (Musen & Musen, 1992, 5:07-5:44; Zimbardo, 2007a, p. 55)

The experimenters also imposed programs on the guards' behavior dependent upon the phase of the experiment and the time of day. For example, Jaffe informed them on the guard orientation day about the reception of the prisoners: "I have a list of what happens, some of the things that have to happen. When they get here, they're blindfolded, they're brought in, put in the cell or you can keep them out in the hall I imagine, they're stripped, searched completely, anything that they have on them is removed" (Tape 2, 1971, transcription p. 5). Jaffe was reading a list handwritten by Zimbardo entitled: "Processing in – Dehumanizing experience," which indicates for instance: "Ordered around. Arbitrariness. Guards never use name, only number. Never request, order." (Outline for guard orientation, undated, p. 1)

In addition to planning in detail the reception of prisoners, the experimenters also codified the course of action for the remaining days. Zimbardo distributed a "Suggested daily schedule" to the guards during the same orientation day (see Supplemental Material B). This program was directly copied from the Toyon Hall experiment, including the middle of the night counts, the work periods, and the "group therapy" sessions that never actually happened (Jaffe, 1971, p. 5). The schedule had been originally devised by Jaffe based on his research on prisons and it was usually followed, as Jaffe noticed in the notebook he kept daily:

Aug. 17 "Schedule followed pretty carefully." [...]

Aug. 18. "Daily schedule followed pretty closely" [...]

Aug. 19. "Again, basic schedule followed pretty closely" (Jaffe, undated a, p.3, p.4 and p.5)

(3) *During their orientation day, the guards received instructions from the experimenters.* In several aspects, this orientation day was a *training* day. Jaffe gave the

guards specific recommendations drawn from his Toyon Hall experiment. For example, he told them that during the counting sessions they had to impose

forced silence. What we did for the Count was: all lined up against the wall and then they had to count off, first of all “one, two three, four, five,” and they were in no mood to be cooperative so it took quite long time, then they had to call off their numbers, and again we didn’t have much count cooperation. And then they had to count off and call off their numbers. It took about 40 minutes, and then at the end of this the guard on duty had to repeat “Yes we all enjoyed the count, Mr. Correctional Officer” several times. What worked well at that time, a certain sarcasm sometimes that the guards used, “Ah, that’s too bad!”, that sort of thing, well you’ll each develop your own styles, these are conveyers but this was very effective and they hated the Count[.] [...]

Count is a good time for usually the guards use it to somewhat humiliate or be sarcastic[.] [...]

Right before the count we had the reading of the rules, we didn’t do it here, but that was another thing that was quite bothersome to the prisoners. The fact that they had to stand while the warden was there and listen to the rules being read. What we had, we had a lot of howling and chanting and all that sort of thing that went on and every time they [*garbled*] this might be something you might want to incorporate into daily routine. Then we had dinner after the count 5:30, then at 6:00 we had work that was shoe shining at that time. I had this blanket, [... and one day I took it out and] got it completely filled with straw and I thought to myself this would be a perfect work task to have them sit and pull out all the burr and the straw, cos I tried it one day and I didn’t make any headway at all. It takes hours, so if anybody has something like that, or maybe we can use one of the prisoners blankets. [...]

We woke them up at 6:00 in the morning, we had exercises for a while which consisted in walking around the cell block. You can add things to that. [...] You could have them do jumping jacks, or push-ups or you know, you all know how to do basic health-stuff like that. (Tape 2, 1971, transcription p. 10-15)

Several guards applied this program, including counting, taunting, reading the rules, chanting, push-ups, shoe shining and blanket cleaning. Guard Terry Barnett, for example, noted on the first day in his report: “activities of count – number recitation, several times, rule reading, intro. speech by Warden, push-up penalties for incompetence” (Barnett, 1971a).

In an interview given in 2005, the ex-convict who served as a consultant before and during the SPE, Carlo Prescott, explained that “ideas such as bags being placed over the heads of prisoners, inmates being bound together with chains, and buckets being used in place of

toilets in their cells were all experiences of mine at the old ‘Spanish Jail’ section of San Quentin and which I dutifully shared with the Stanford Prison Experiment braintrust months before the experiment started” (Prescott, 2005). Zimbardo has recently denounced this testimony as fake (Zimbardo, 2018, p. 4; Interview with Carlo Prescott, prison consultant and head of the adult parole board, Stanford prison experiment, 2018); yet, as Ben Blum informed me afterwards (e-mail, July 22, 2018), Prescott acknowledged during several recorded interviews with him that it was his idea indeed of using buckets in place of toilets.

Zimbardo and Jaffe thus set the number of counting sessions per day, and designed them as a mix of boredom, humiliation and vexation. They determined the number of visits to the toilet and the maximum time prisoners could spend there (Tape 2, 1971, transcription p. 16). They proposed to the guards to privilege the docile prisoners and to constitute “a cell for honor prisoners” (Tape 2, 1971, transcription p. 22), which the more zealous guards did. They also suggested to the guards to be sarcastic or ironic, and to humiliate the prisoners by depriving them of their privileges, lengthening the counting sessions, opening their mail, having them clean their cells or inflicting meaningless punishments on them. Recalling his first shift, a night guard wrote to Zimbardo, two months after the experiment:

We sat in the guards “cell” and devised a plan for the 2:30[am] count. We got a suggestion from the warden [Jaffe] to stand by the cells and blow our whistles. It wasn’t gentle, but it fit with the outlines of guards duty. I thought that the warden was very creative, not just then but through the experiment, he gave us very good sado-creative ideas. (Cerovina, undated, p. 1)

So we can assume that the guards were not just “role playing” according to social stereotypes of how guards act in a real prison and according to the “cues pointing to the experimental hypothesis, the experimenters’ expectations, and possibly, the experimenters’ ideological commitment,” as presumed by Banuazizi and Movahedi (1975, p. 156). In reality, the guards were following instructions and guidelines.

(4) *The experimenters intervened directly in the experiment, either to give precise instructions, to recall the purposes of the experiment, or to set a general direction. The*

experimenters asked the guards not to follow their instinctive reactions but to play a specific role. A guard, Mike Varn, reported for example at the end of the experiment that several times “the warden or Prof. Zimbardo specifically directed me (us) to act a certain way (ex. hard attitude Wednesday following Tuesday leniency).” (Varn, 1971, p. 1) Jaffe confessed, at the end of the experiment:

I believed (and I still do) that without rules, without gruff and mildly realistic guard behavior, the simulation would have appeared more like a summer camp than a prison. [...] Furthermore, even before I arrived, Dr. Zimbardo suggested that the most difficult problem would be to get the guards to behave like guards. I was asked to suggest tactics based on my previous experience as master sadist, and, when I arrived at Stanford [after a summer job in Chicago], I was given the responsibility of trying to elicit “tough-guard” behavior. (Jaffe, undated b, p. 1)

Here for example is how Jaffe straightened out one of the soft guards on the third day:

[T]he guards have to know that every guard is going to be what we call a tough guard. [...] Because whether or not we can make this thing seem like a prison, which is the aim of the thing, depends largely on the guards’ behavior. [...] And hopefully what will come out of this study is some very serious recommendations for reform. At least reform if not a revolutionary type of reform. And this is our goal. [...] [S]o that we can get on the media and in the press with it, and say now look at what this is really about. [...] [W]e need you to play the part of, you know, tough guard. [...] [T]ry and react as you picture the pigs reacting. (Tape A, 1971, transcription, p. 8-11 and p. 13-16)

Contacted by Ben Blum after the publication of my book, I sent him these extracts (e-mail, May 3, 2018), which he quoted in his article online (Blum, 2018). Two weeks later, in his statement on the official website of the SPE, Zimbardo recognized that “the research team asked all guards to be actively involved and firmly in control of the prisoners” (Zimbardo, 2018, p. 5). Yet he still maintained that the experimenters “did not give any formal or detailed instructions about *how* to be an effective guard” (Zimbardo, 2018, p.4). The evidence presented above directly contradicts this statement.

(5) *In order to get their full participation, Zimbardo intended to make the guards believe that they were his research assistants.* On their orientation day, Zimbardo included the guards among the experimenters (“we can create boredom ... we’re going to take away their

individuality ... we have total power”), as noted by Haslam and Reicher (2003, p. 22).
Zimbardo’s student Banks told them they were a “source of observation” (Tape 2, 1971, transcription p. 9). They had to complete daily reports and, if necessary, a “critical incident report sheet” (Critical incident report sheet, 1971). Together they formed a team of experimenters responsible for the maintenance of order and for the production of scientific results – as we will see in the next section, the two seem to have been inseparable from the guards’ point of view: the more they would get into their role as guards, the better the results.

To reinforce their identification with the experimenters, Zimbardo made the guards believe that the experiment was only about the prisoners. He admitted it during a discussion with the guard John Loftus, a year after the experiment, who told him:

[W]e knew we were being listened to by somebody but we didn’t know where or... There is one time when a guard said “Zimbardo is allowed to be testing us too,” and another guard said: “No, no, they told us we were supposed to keep these, you know...” It was our job to make sure this was a simulated prison, not that we were being experimentees too. [...] We didn’t know until the end of the experiment that we were being experimented with. [...] [W]e thought everything was under surveillance”. (Interviews re: Stanford Prison Experiment (Zimbardo, Korpi, John Loftus), 1972, side B, 26:50 and 30:35)

Other guards expressed the same idea in the reports they wrote for Zimbardo, e.g.:

[F]rom the beginning of the experiment, to the end, I thought of the guards as being a helping agent to the “experiment,” not actually part of it. I thought of the prisoners and their reactions etc. as being the experiment. I took care to make sure that I played a guard (as I thought a guard to be). I felt that any niceness on my part would eliminate me from the experiment. (Cerovina, undated, p. 1)

Zimbardo admitted in *The Lucifer Effect* that he was interested in the “psychology of imprisonment,” not in the “psychology of maintaining law and order” (Zimbardo, 2007a, p. 55 and p. 208). But in no account, no article, or no book, does he specify that he deceived the guards and made them believe they were not subjects. Admittedly, the use of deception is not forbidden in psychological experiments, but it must be specified in the accounts of them, because it changes the interpretation that we can have of the participants’ reactions.

The participants responded to demand characteristics

When he set up his prison experiment, Zimbardo knew about the “demand characteristics” phenomenon. He had quoted Martin Orne’s seminal paper on the subject (Orne, 1962) early in 1971 (Zimbardo, 1971a), and he had written on it (Fraser and Zimbardo, undated). So he knew that the SPE was a situation with multiple demands, all the more so since the participants were aware of the object of this “psychological study of prison life”, as the advertisement they responded to indicated (Stanford Prison Experiment slideshow, 106 slide version), and since the guards were informed in advance of the objectives pursued by the experimenters. The demand characteristics were probably all the stronger as the experiment was repeatedly presented to participants as “important” and as they were aware of having been “chosen” – for example, Jaffe told the guards during their training day: “A lot of this, of what happens, does depend on you. You were selected. It was a pretty selective thing.” (Tape 2, 1971, transcription p. 8) The fact that almost all the participants were students in local colleges or small universities and that Stanford University was already prestigious at the time could have strengthened Zimbardo’s authority over his subjects.

Moreover, several volunteers had already participated in psychological experiments. For instance, prisoner Clay Ramsay (phone interview, June 20, 2017), guard Karl Van Orsdol (phone interview, June 21, 2017), and stand-by guard James Peterson (phone interview, May 30, 2017) had done so. Prisoner John Mark told me that he had taken part in about 20 experiments before the SPE (phone interview, October 24, 2017).

Greg White, who was Zimbardo’s assistant during the year following the experiment and who analyzed its data, wrote a report which raised

doubts concerning the role demand characteristics played in the situation. First, the degree to which the guards were prompted in their roles by the experimenters, while not certain, appears to be considerable. Thus, the strength of the “guard” label is actually unknown. [...] They were more like “guards” than they might have been without the assorted demand characteristics (1) to act like a guard should act, (2) to make the experiment work, and (3) of being coached. (White, undated, p. 2-3)

As we have seen, Banuazizi and Movahedi have shown that 150 college students who had been explained the SPE's protocol could guess at 90% that the experimenters expected the guards to be "oppressive, hostile, aggressive, humiliating" (Banuazizi and Movahedi, 1975, p. 158). Zimbardo often ignores this criticism (for example, the term "demand characteristics" is not used in *The Lucifer Effect*). On other occasions, Zimbardo invites his readers "to look to circumstances where role demands were minimal, where the subjects believed they were not being observed, or where they should not have been behaving under the constraints imposed by their roles," (Haney, Banks & Zimbardo, 1973, p. 91). It is thus relevant, he often recommends, to concentrate on the night shift, and in particular the one officiated by David Eshleman, the toughest guard, nicknamed "John Wayne" by the prisoners. Yet, the guards seem to have felt they were being watched and filmed constantly (why should one do an experiment if it is not to observe its results?), and these abuses were especially related to one guard, Eshleman, who was a tall theater major, the son of a Stanford University professor, and who had just gone through a fraternity hazing (phone interviews, June 20, 2017 and November 11, 2017). Indeed, the abuses only concerned the first night shift, between 6pm and 2am; the team in charge of the second part of the night, from 2am to 10am, showed no particular inclination to sadism.

Letters and recorded interviews kept in the archives reveal the strength of the demand characteristics. During the debriefing that took place on the last day of the experiment, Eshleman confessed for example to Jaffe: "I thought it would be better for the study if I presented what I thought to be a realistic relationship between guard and prisoner. [...] [T]hroughout the entire experiment I was an actor, and I was hamming it up. [...] I was role playing." (Eshleman, 1971a, p. 2) Terry Barnett, the second most zealous guard, explained his involvement in the same terms. He wrote to Zimbardo, three months after the experiment: "I was always acting [...] I was always *very* conscious of the responsibility involved in the guards' and the experimenters' positions; I mentioned this to various people at various times, including to you during the debriefing." (Barnett, 1971b) He wrote to him again, three months

later: “I consciously felt that for the experiment to be at all useful ‘guards’ had to act something like guards. [...] I felt that the experiment was important and my being ‘guard-like’ was part of finding out how people react to real oppression” (Barnett, 1972, p. 5). A reluctant guard, John Loftus, told Zimbardo a year after the SPE: “Most of the time I was conscious it was an experiment. It’s hard to remember now what I was thinking, but most of the time I was thinking: ‘I got to do this thing or else the experiment won’t come off right’.” (Interviews re: Stanford Prison Experiment (Zimbardo, Korpi, John Loftus), 1972, side B, 34:07)

As Bartels noticed (2015, p. 47), the participants had also signed a contract with Stanford University, which stated: “[I understand that] I will be expected to participate for the full duration of the study, that I will only be released from participation for reasons of health deemed adequate by the medical advisers to the research project”. Bartels only quotes this part of the contract, but it also stipulated: “I will be expected to follow directions from staff members of the project or from other participants in the research project. I am submitting myself for participation in this research project with full knowledge and understanding of the nature of the research project and of what will be expected of me.” (Consent, 1971)

Besides, the majority of the participants were in it for the money, as those I interviewed explained to me, and as Zimbardo admitted before a Congress subcommittee: “The pay was good (\$15 a day) and their motivation was to make money.” (Zimbardo, 1971b, p. 154) But Zimbardo often adds that “since the subjects were all paid equally for their participation (\$15 per day) and paid regardless of what actually occurred, there were no tangible incentives for them to behave in one specific way or another.” (Haney & Zimbardo, 1976, p. 268) In fact, the archival material discloses that the participants were paid *at the end* of the experiment, and thus that their pay depended on its duration and on their capacity to stay in it. This factor very probably reinforced the demand characteristics. Apart from the prisoners who asked to be released before the end of the experiment, most of the participants certainly wanted to keep this summer job as long as possible, and it could explain why no one ever intervened to bring it to an end. A reluctant guard, Geoff Loftus, who was asked two

years later if he would do it again, responded to Zimbardo: “I wouldn’t sell myself to the role for money as I did in the experiment. I needed the money and for that reason I tried to stay on as long as the experiment would last.” (Loftus G., 1973) Another guard wrote right after the end of the experiment: “I really needed the money (I really felt like quitting), so I became what I believe was expected of me.” (Cerovina, 1971, p. 1-2) A prisoner, replying to a questionnaire distributed by Zimbardo two weeks after the SPE, wrote that the main “constraints” he felt during the SPE were:

1. Can’t escape or else maybe no pay.
2. Can’t break door or else maybe [no] pay.
3. Can’t destroy experiment or else no pay.

Got the idea? I had to comply somewhat with the guards to keep the whole thing going. [...] Doug [Korpi]’s plea for non-cooperation was not followed because of possible termination of the experiment. In other words, if the prisoners took over, would the exp. have ended? (Gee, 1971).

Another prisoner, Paul Baran, replying to the same questionnaire, confirmed to Zimbardo that, after the rebellion on the second day, “we were going to try to break out but then we decided that it would put the money we were going to earn in jeopardy so we decided against it. The one thing that kept me there was the money” (Baran, undated, p. 1).

Moreover, Zimbardo and his team were always around the experiment, either in the guardroom at one end of the corridor, in the experimenters’ room at the other end, upstairs in Zimbardo’s office, or down in the corridor to conduct visits, inspect the cells or review the guards; they broadcast messages through loudspeakers and they interviewed each guard at least once during the experiment. A guard said during a debriefing, the day after the experiment: “There’s another thing that’s set up. You’re the experimenter and in a sense we’re kind of like the employees, and in a sense we all trust you, you know, we know that one of you was listening in, and we’d say, ‘he’ll take care of it.’ We trusted you.” (Encounter session with guards, undated, p.4)

The prisoners were conditioned by the experimenters

The objection can be raised that the guards had followed a program, received instructions, and acted under influence of the experimenters. But could we say so about the prisoners? “People do not have emotional breakdowns in order to be cooperative experimental subjects,” as Zimbardo is in the habit of saying (e.g., Zimbardo, 1972b). For at least one of the prisoners, it appears to be the case.

“According to the rules of the experiment, any participant could leave at any time, but this seems to have been forgotten by the disgruntled prisoners,” wrote Zimbardo in *The Lucifer Effect* (2007a, p. 48). In reality, as the archival materials show, Zimbardo had planned from the beginning not to release the prisoners at any time as they pleased. The protocol he submitted to Stanford’s ethics committee, on the 31st of July 1971, stated that prisoners would “be led to believe that they cannot leave, except for emergency reasons. Medical staff will be available to assess any request to terminate participation. [...] Prison subjects will be discouraged from quitting.” (Human Subjects Research Review Committee (Non-Medical), 1971, p.2; last sentence quoted in Bartels, 2015, p. 47) The archival material reveals that the prisoners had in fact only three ways of getting out: falling ill, having a nervous breakdown, or obtaining a special authorization from the experimenters.

Two prisoners, Rich Yacco and Doug Korpi, tried to quit the experiment as early as the second day, but they were rebuffed. Korpi pretended to have a stomach ache, but it did not work. On the next day, after Korpi’s release, Zimbardo told his team what had happened:

The interesting thing was that the guys who came in yesterday, the two guys came in and said they wanted to leave. And *I said no*, you know, there are only two conditions under which you can leave, in other words, medical health or psychiatric and that’s the condition under which this other guy [Korpi] left. [...] I think they really believed they can’t leave. (Tape 8, undated, p. 8, my emphasis)

Following Zimbardo’s implicit instruction, Korpi then decided to pretend to have a breakdown. Whether he was pretending or not is controversial. Ben Blum called into question the authenticity of Korpi’s breakdown on the basis of a interview he did recently with Korpi

(Blum, 2018). Zimbardo replied two weeks later in his online statement that Korpi had had a breakdown, end of discussion. He had two arguments: (1) “Doug Korpi himself went on record in *Quiet Rage* as saying that his time as a prisoner was the most upsetting experience of his life”; and (2) “Korpi’s story has changed several times over the past 47 years.” (Zimbardo, 2018, p. 7-8)

Several archival evidences confirm, on the contrary, that Korpi planned to act mad in order to be released, and that he explained it to Zimbardo several times. The day the experiment was stopped, Korpi was interviewed by an experimenter and he told him:

I decided I want out and then I went to talk to you guys and everything, and you said “no” and you bullshitted me and everything, and I came back and I realized that you were bullshitting me, and that made me mad, so I decided I’m getting out and I was going to do anything, and I made up several schemes whereby I could get out. The easiest one, the one that wouldn’t hurt anybody or hurt any equipment, was to just act mad, or upset, so I chose that one. When I was in the Hole [the solitary confinement cell], I purposely kind of built it up and I knew that when I went to talk to Jaffe that I didn’t want a release the energy in the Hole, I wanted to release in front of Jaffe, so I knew I’d get out. (Tape 7, 1971, 2:35)

A year later, Korpi maintained his version of the facts in front of Zimbardo: “I realized that to get out I’d out I’d have to pull it up, to do some weird stuff. [...] I instinctly knew how to work myself up. And I knew that if I didn’t work myself up, it wouldn’t be believable and I wouldn’t get out” (Interviews re: Stanford Prison Experiment (Zimbardo, Korpi, John Loftus), 1972, side B, 13:30). Korpi said so again in the late 1980s during a video interview shot for the documentary film *Quiet Rage* (this part of the interview has been edited out): “So, I’m in the cell and I’m feeling: ‘well I guess sickness won’t get you out,’ I told them I had a stomachache or headache, that’s not gonna make me out, I guess I will really have to act out, really act bizarre, to get out.” (Hall of Justice (Reel #2), undated, 15:50) So if it is hard to know if Korpi was faking, it is highly probable that he wanted to look like he was having a breakdown. And as we can see, his testimony is very consistent over the years.

Four other prisoners were released before the official interruption of the experiment. Two after having burst into tears, one because he had a rash over his body (caused by the poor

hygiene in the prison and because he was deprived of his medication), and the last one, Rich Yacco, for no clear reason. Yacco was quietly sweeping the corridor when he was informed that he was free to leave (phone interview, November 30, 2017). So it is exaggerated to assert about the prisoners that “half of them became so psychologically disturbed they had to be released prematurely,” as is claimed in several accounts of the SPE (e.g., Zimbardo, 1978, p. 165). Out of the 10 prisoners, it looks like only two really exhibited symptoms of a nervous breakdown. And this was in spite of the harsh living conditions arranged by Zimbardo and his assistants: prisoners were awakened at 2:30am and 6am; they permanently wore chains on their feet that caused them bruises and disturbed their sleep; they were never allowed to take a shower; their access to the toilets was restricted during the day and forbidden at night; Zimbardo described the food as “lousy,” “meager,” “inadequate” (Zimbardo, 2007a, p. 141, p. 182 and p. 177), and several prisoners had to skip lunch the day they arrived in the prison and the second day, during the rebellion; since none of the cells had windows, they were deprived of daylight and fresh air during the whole experiment; the prison was quickly bathed in an “oppressive” smell, as a priest noted during his visit (Tape 4, transcription p. 4); detainees were also deprived of their cigarettes and, at the beginning, of their glasses; they were never entitled to any form of constructive activity.

The situation was unrealistic

The official accounts of the SPE usually underline how the participants were immersed in the situation. For instance:

By the end of the week, the experiment had become a reality (Zimbardo, 1971b, p. 154).

[I]n a very short time most of the subjects [ceased distinguishing between their prison role and prior self-identities (Zimbardo & Haney, 1973, p. 27).

It was remarkable how readily we all slipped into our roles, temporarily gave up our identities and allowed these assigned roles and the social forces in the situation to guide, shape and eventually to control our freedom of thought and action. (Zimbardo et al., 1973, p. 42).

[D]ifferences dissolved between “role” and “identity,” between “experiment” and “experience,” between “play” and “business,” and finally, between “illusion” and “reality.”

(Zimbardo, 1975b, p. 36)

The archival materials reveal, on the contrary, that the participants almost never lost touch with reality and were conscious of participating in an experiment. The concrete situation would remind them constantly: the pasteboard decor; the phones ringing, the photocopier noises, and the discussions from the offices on the upper floor; the regular debriefings with the experimenters and the questionnaires to fill out; the strange journeys to the brand new toilets of the psychology department; the prisoners' nylon stocking caps and their ridiculous gowns; and, on top of that, the visits of photographers, cameramen, journalists, secretaries, and Stanford colleagues.

The letters the prisoners wrote to their friends and relatives during the experiment and what they said immediately afterwards show that they almost never lost contact with reality: "We all know it's an experiment." (Stuart Levin, in Interview with Greg White, undated, transcription p. 10) "It never occurred to me that I was entering a prison." (Clay Ramsay, in Ramsay, 1971) "This is an experiment." (Doug Korpi, in Tape E, undated, transcription p. 2) "I don't think I ever lost consciousness of it being an experiment. [...] [T]here was some ambiguity in my responses to things because it was an experiment. I was a participant in a game, and sometimes I thought I was expected to play the game even if I didn't want to. And it was always amusing to a degree to play the game." (Jerry Shue, in Shue, 1972) Prisoner Paul Baran, answering at the end of the experiment the question: "At any time since Sunday, has this experience been more to you than merely participating in an experiment?":

Yes, it once was, on Monday, when we barricaded ourselves in our cell [...] for a short period I felt that I was a prisoner. [The rest of the time] [i]t was unrealistic to me for many reasons. [...] They [the guards] were at all times just people, even when I attacked one of them. I think that is why I didn't fight harder and at the end of the encounter I just totally resisted to keep up appearances. The people on the outside (near the offices) also added to the feeling of unrealism and also the cameras, microphones and general activity that surrounded this simulation. (Baran, 1971)

The guards did not forget it was an experiment either, as we have seen with David

Eshleman and Terry Barnett. Karl Van Orsdol was the only one to confide at the end of the experiment that he “tended to forget it was an experiment.” (Van Orsdol, 1971, p. 1) John Loftus, one of the laid-back guards, said at the end: “Only once did it seem more than an experiment. That was when 8612 [Doug Korpi] struggled with us over the bed. [...] [Apart from that, the prison] felt phony. The only thing that kept me going was that I knew this was an experiment.” (Loftus J., 1971a, p. 1)

So the SPE would tend to show, as the overseers of the BBC prison experiment concluded from their own study, that people do not “helplessly succumb to the requirements of their roles” (Haslam & Reicher, 2005, p. 51), even when they participate in an experiment. When Zimbardo asked the guards to rate in percentages “How much were you able to get into your assigned role” during each of the six days, their responses show that only Van Orsdol and Varn felt sometimes completely immersed in the situation – strangely not on the same days, although they were on the same guard shift (see Supplemental Material C).

As some observers have noticed (e.g., Brannigan, 2004, pp. 60-61; Fromm, 1973, pp. 55-56), the experiment mixed realistic facts (the arrests by real police officers, the impossibility of leaving the prison) with unrealistic ones (nylon stockings on the head of the prisoners, gowns worn without underwear, a move of all the prisoners into an attic during a rumor of assault). On one side, it is very probable that the volunteers played a role; on the other, the prisoners were indeed imprisoned. This uncertain combination of fiction and reality may have caused great confusion, especially among prisoners. Young people who never had trouble with the police might experience difficulties to know how to react to imprisonment; in the case of the SPE, these young people had to find out how to behave in a prison governed by scientists who paid them both to play and be spontaneous. Doug Korpi described this double bind in an interview shot for *Quiet Rage* (this part was edited out too):

That was a constant issue: I’m hired for a job to be a prisoner. At most jobs you have to obey the rules, but what are the rules if you’re in a mock prison situation? I mean are you allowed to do what normal prisoners do, like talking, swearing, telling the guards to fuck off? (Hall of Justice (Reel #1), undated, 13:40)

Zimbardo wanted to “create a functional simulation of a prison environment, not a literal one” (Zimbardo & White, 1972, p. 3). For this simulation to be realistic and to have ecological validity, it should have been based on a thorough study of real places of imprisonment. Yet, at the time of the SPE, as Zimbardo admitted, “I knew really nothing about prisons” (Drury, Hutchens, Shuttlesworth & White, 2012, p. 162). He imagined the SPE almost entirely on the basis of the testimonies of the ex-convict Carlo Prescott and of the Toyon Hall experiment. His articles and *The Lucifer Effect* quote only two books on detention: the prison letters of George Jackson and the novelized testimony of a French former inmate (Jackson, 1970; Charrière, 1969); the archives reveal no other written sources. For these reasons, we should be cautious when using the SPE in order to understand real places of imprisonment.

The experiment was inaccurately reported

On most of his accounts of the study, Zimbardo has repeatedly claimed that his results rested on “systematic record keeping and data collection” (e.g., Zimbardo, 1975b, p. 59). He wrote in his second academic account of the SPE: “we had installed video and audio recording apparatus in the prison compound so we would be able to make a permanent and relatively complete record of the verbal and behavioral interactions which occurred” (Zimbardo & Haney, 1973, p. 27). In several of his writings, Zimbardo illustrates the preponderance of negative interactions during the experiment with a table made on the basis of these video tapes, sometimes without specifying that these particular data cover only 4% the total duration of the SPE (e.g., Zimbardo, 1975a, p. 587; Zimbardo, 2007a, p. 202).

The archival materials reveal indeed that the SPE data are neither complete nor uniform. Zimbardo and his assistants did not collect any data on the third day of the experiment, when they were busy thwarting a rumor of assault. Of the 150 hours of the experiment (including the orientation day), less than 10% have been recorded (6 hours of video and 8 of audio). Zimbardo often claims that he filmed 12 hours of video, but I found

only 6 in the archive. And these 6 hours of video recorded during the experiment are unrepresentative and should have been used with great caution. In their first academic account of the SPE, Haney, Banks, and Zimbardo admitted that “some of the data was subject to possible errors due to selective sampling”, that “there are not complete data on all subjects for each measure because of prisoners being released at different times and because of unexpected disruptions, conflicts and administrative problems”, and that the experimenters “have a relatively small sample on which to make cross-tabulations by possible independent and individual difference variables.” (Haney, Banks & Zimbardo, 1973, p. 78) But as Haney wrote in his report, the bias was stronger:

[A]s a result of a number of serious distortions in the data, most of which derive from the vicissitudes of initial recording, our statements are rendered much more equivocal. [...] [O]ur video sample was seriously biased at the outset. For the most part, our concerns in filming were cinematic: we recorded primarily the dramatic (e.g., counts) or the unusual (e.g., the priest’s visit). In a sense, these events are unrepresentative by definition. It is the commonplace, the regular, the mundane occurrences which best portray the reality of a total institution and these are the very things we do not have (or have sparsely) recorded. (Haney, undated, p. 1-2)

A few months after the experiment, Greg White, another graduate student in charge of studying these videos, also warned Zimbardo: “the measures that I have access to, most of which are reactive, may be so incredibly biased towards dramatizing the situation that it appears as a more powerful experience than it actually was.” (White, undated, p. 2)

The experiment was also inaccurately reported in the sense that the archival material reveal that Zimbardo collected very little personal information about the participants. He and his assistants barely questioned them about their religious or political beliefs and activities, their hobbies and sport activities, their cultural background or about their social status. As a matter of comparison, a decade before, conducting his obedience studies, Milgram “had been gathering information after each experiment about participants’ political beliefs, ethnic background, religion, and military service” (Perry, 2013, p. 99), and yet these participants numbered in hundreds. In the case of the SPE, such personal data might have helped explain

the reactions of certain prisoners and certain guards, such as Korpi and Eshleman. Yet, these possible dispositional explanations were discarded at the outset, as Zimbardo admitted in his first academic account of the SPE: “No specific hypotheses were advanced other than the general one that assignment to the treatment of ‘guard’ or ‘prisoner’ would result in significantly different reactions” (Haney, Banks, & Zimbardo, 1973, p. 72) So Zimbardo tested only the situational variables of his mock prison.

Lastly, Zimbardo never quotes data on real prisons to which he could compare his own, even though such data were easily available at the time (e.g., Clemmer, 1940; Sykes, 1958). He cannot say, for instance, that he observed in his prison “four times more assaults than normal” or “twice as many orders given than normal”. Haney complained in his report: “This is particularly unfortunate since it is precisely this kind of comparative information that allows us to represent the character of prison as distinct from, say, mental hospitals, educational settings, or cocktail parties.” (Haney, undated, p. 2)

The conclusions were pre-written according to non-academic aims

Zimbardo has always maintained that he had been taken aback by the events that unfolded during the study. “What happened surprised everyone, including me”, he confided for instance in his documentary series for PBS (Zimbardo, 1990, 14:55)

When he began to get interested in prisons, only three months before the beginning of the experiment, Zimbardo already had strong views on the subject. As he would confide later, “my sympathies were heavily with prisoners. I was anti-prisons, anti-corrections, etc.” (Zimbardo, 2009, p. 34). Instead of trying to neutralize the potential effects of these convictions on his objectivity, Zimbardo designed his experiment from the outset as a *demonstration* of the toxicity of prison. The press release that Zimbardo disseminated on the second day of the experiment states in conclusion that it aimed at “making us aware of the prison reforms needed at a psychological level in order that men who commit crimes are not made into dehumanized objects by their prison experience, and in turn prey upon society

when they are released, worse criminals than when they went in.” (News release, 1971, p. 3)

In other words, Zimbardo wanted to show that prisons are bad for prisoners.

On the last day of the experiment, after a week of hectic activity (planning meals and laundry, receiving sick or complaining prisoners, welcoming visitors, organizing two parole boards, interviewing the guards and the prisoners, watching the video tapes recorded during the night, etc.), Zimbardo had lost 10 pounds, he had had difficulty eating and sleeping, and he had developed a chronic headache (Zimbardo, 1973, p. 248). Yet, on this last day, he sent another news release to local and national newspapers, stating that “this has a message for prison reform. It shows the need for a change in psychological conditions, which won’t cost the taxpayer any money. [...] People should be aware of the power of the social situation over individual behavior.” (quoted in “‘Prison’ test halted: Too brutal,” *San Francisco Examiner*, 1971) In July 1972, while he was still analyzing his data (Letter to Peter C. Lewis, Aug. 21, 1972), Zimbardo produced and realized a slideshow that has circulated widely in colleges, universities, correction facilities, and other organizations (Zimbardo & White, 1972). The slideshow ended with these words:

As a consequence of the time we spent in our simulated prison, we could understand how prison, indeed how any total institution, could dehumanize people, could turn them into objects and make them feel helpless and hopeless, and we realized how people could do this to each other. The question now is: how can we begin to change our real institutions so that they promote human values rather than destroy them? (Zimbardo & White, 1972, p. 17 and 50:54)

Discussion

How can we account for the long-lasting influence of the experiment, in spite of its many flaws? I propose four explanations.

1) In his desire to popularize his experiment, Zimbardo has very often made the SPE look more spectacular than it was in reality. He declared recently about it:

That has been a big media event; the research itself is a dramatic piece. It is really like a Greek drama – what happens when you put good people in an evil place? There is a stage-like

setting, costumes, actors, auxiliary actors (i.e., the police, the parents, a public defender, a Catholic priest). There is deep dramatic focus in the story. Do good people win over evil situations or do evil situations corrupt good people? (Zimbardo, 2003, p. 289)

Summarized as a battle between Good and Evil, the prison experiment can be read as an attractive biblical parable or an edifying moral allegory. In particular, textbook authors seem to have a taste for the bullying and the worrying – “the subjects simply ‘became’ the roles that they played. *All* of the 11 guards behaved in abusive dehumanizing ways toward the prisoners” states for instance a text-book author (McConnell, 1983, p. 611), as if painting a dark picture of our inner traits could both captivate the psychology students and legitimize the authority of psychologists (Brannigan, 2004, p. 39): for, if people can be blindly violent and conformist, then we need psychology to protect us from others and from ourselves.

This minimalistic and spectacular aspect of the experiment might also explain its extensive media exposure since 1971. Zimbardo himself admitted that “the visual nature of the SPE made it ripe for television and other media coverage” (2007a, p. 248), and that, after Abu Ghraib, “my commentary was sought by the media because it could be dramatized by vivid video and still footage from our experimental prison” (2007a, p. 331). During his career, Zimbardo has actively contributed to the media coverage of his studies, as he confided recently:

I have always believed that, in trying to give my psychology away to the public, I have to give it away to the media and they have to sell it to the public. That is, I have to work in various ways with media, with reporters, with journalists, to reframe my work in ways that are accessible, easy to understand, and not too academic. (Burton, 2016)

2) The SPE has been a powerful argument in favor of situational forces in the different debates between personality psychologists and social psychologists since the 1970s. According to Zimbardo, the main implication of his prison experiment is precisely that “individual behavior is largely under the control of social forces and environmental contingencies, things that occur, rather than some vague notions of personality traits, character, will power, or other empirically unvalidated constructs.” (Zimbardo, 1971b, p. 113)

3) Zimbardo's linking the SPE to Milgram's obedience study via a situationist explanation may have also contributed to the SPE's continued success. He stated recently, for instance: "My research at Stanford University extended the Milgram paradigm away from a single authority issuing commands to having participants embedded in a social context where the power resided in the situation." (Zimbardo, 2015, p. xiv; we have seen that Zimbardo in fact hid the authority issuing commands and pretended that the context alone was exercising power over the participants). As he has been repeating for at least 20 years, often together with the fact that he attended Monroe High School in the Bronx with Milgram, "the Stanford prison study along with the famous study by Stanley Milgram on blind obedience to authority are really the bookends of the power of the situation." (Zimbardo, 1999, p. 6; Drury et al., 2012, p. 162) Linking his experiment with Milgram's study may have contributed to its aura.

4) The SPE survived for almost 50 years because no researcher has been through its archives. This was, I must say, one of the most puzzling facts that I discovered during my investigation. The experiment had been criticized by major figures such as Fromm (1973) and Festinger (1980), and the accounts of the experiment have been far from disclosing all of the details of the study; yet no psychologist seems to have wanted to know if the archives what exactly did the archives contain. Is it a lack of curiosity? Is it an excessive respect for the tenured professor of a prestigious university? Is it due to possible access restrictions imposed by Zimbardo? Is it because archival analyses are a time-consuming and work-intensive activity? Is it due to the belief that no archives had been kept? The answer remains unknown.

The recent replication crisis in psychology has shown, however, that psychologists are not indifferent to the functioning of science. This crisis can be seen as a sign of the good health and vigor of the field of psychology, which can correct its errors and improve its methodology (Chambers, 2017, p. 171-217). Hopefully, the present study will contribute to psychology's epistemological self-examination, and expose the SPE for what it was: an incredibly flawed study that should have died an early death.

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Documents from Philip Zimbardo's archive held at Stanford University are indicated by the code ST-bXX-fYY (where YY is the file number and XX is the number of the archive box in which it is located). A link is indicated when these documents have been digitized and are available online, which is not always the case. ("Philip G. Zimbardo Papers (SC0750)," Department of Special Collections and University Archives, Stanford University Libraries, Stanford, Calif., www.oac.cdlib.org/findaid/ark:/13030/kt7f59s371).

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Supplemental Material A

Comparison of the rules of the Toyon Hall experiment and of the SPE (the differences are underlined).

<i>Rules of the Toyon Hall experiment</i> (source: Prisoner rules, undated, ST-b09-f59)	<i>Rules of the SPE</i> (source: Rules for prisoners, undated, ST-b11-f24)
2. Prisoners must eat at meal times.	2. Prisoners must eat at meal times, <u>and only at meal times.</u>
4. Prisoners must remain silent during rest periods, after lights out, during count, during meals, during study time, whenever they are outside the prison area (<u>e.g. lavatory or warden's office</u>) or <u>whenever a guard requires silence.</u>	1. Prisoners must remain silent during rest periods, after lights out, during meals and whenever they are outside the prison yards.
5. Prisoners must participate in all prison activities.	3. Prisoners must participate in all prison activities.
7. Prisoners must keep the cell clean at all times. <u>Sleeping bags must be rolled and stowed;</u> personal effects must be neat and orderly; floor must be spotless.	4. Prisoners must keep the cell clean at all times. <u>Beds must be made and</u> personal effects must be neat and orderly; floor must be spotless.
9. Prisoners must not deface or damage walls, ceilings, windows, doors, or any prison property.	5. Prisoners must not <u>move, tamper with,</u> deface or damage walls, ceiling, windows, doors, or any prison property.
10. Prisoners must address each other by number only. <u>Inquiry into real name is forbidden.</u>	7. Prisoners must address each other by number only.
11. Prisoners must always address the male guards as 'Mr. Correctional Officer', <u>and the female guards as 'Miss Correctional Officer'.</u> Prisoners must address the warden as 'Mister/Chief Correctional Officer'.	8. Prisoners must always address the guards as 'Mr. Correctional Officer', and the warden as 'Mr. Chief Correctional Officer'.
12. Prisoners must never refer to their condition as an 'experiment' or a 'simulation'. <u>You</u> are in prison until <u>you</u> are paroled.	9. Prisoners must never refer to their condition as an 'experiment' or a 'simulation'. <u>They</u> are in prison until paroled.
13. Prisoners must obey all orders issued by guards at all times. A guard's order supersedes any written order. The warden's orders supersede both the guards' orders and the written rules.	15. Prisoners must obey all orders issued by guards at all times. A guard's order supersedes any written order. The Warden's order supersedes both the guards' order and the written rules. <u>Orders of the Superintendent of Prisoners are supreme.</u>
14. Prisoners must report all rule violations to the guards.	16. Prisoners must report all rule violations to the guards.
15. Failure to obey any of the above rules may result in punishment.	17. Failure to obey any of the above rules may result in punishment.

Supplemental Material B

Facsimile of the “Suggested daily schedule” distributed to the guards during their orientation day. (Suggested daily schedule, undated, ST-b11-f21)

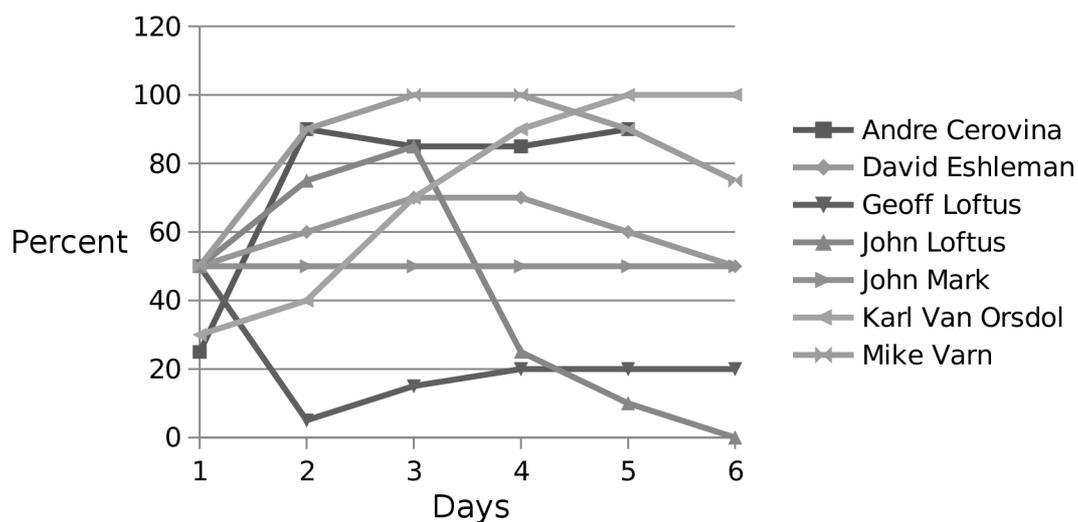
2:30 AM	Count
6:00	Wake prisoners, count-off, exercise
6:30	Bathroom
7:30	Count
8:00	Breakfast
8:30	Work period*
11:30	Count
12 noon	Lunch
12:30 P.M.	Rest and reading (or group therapy)
2:00	Work period*
4:30	Count
5:00	Unscheduled
6:30	Dinner
7:00	Rest and reading (or group therapy)
8:30	Bathroom
9:00	Count
9:30	Lights out

* These are to be used mainly for work, but may also include room and area cleaning or compulsory recreation.

Supplemental Material C

“How much were you able to get into your assigned role?”

“How much were you able to get into your assigned role?” Question asked by Zimbardo in a questionnaire filled by the participants in the weeks immediately following the SPE. Answers:



Source: Cerovina, undated, ST-b09-f15, p. 2; Eshleman, 1971b, ST-b09-f16, p. 2; Loftus G., undated, ST-b09-f17, p. 2; Loftus J., 1971b, ST-b09-f18, p. 2; Mark, undated, ST-b09-f19, p. 2; Moreno, undated, b09-f20, p. 2; Peterson, 1971, ST-b09-f21, p. 2; Van Orsdol, undated, ST-b09-f22, p. 2; Varn, undated, ST-b09-f23, p. 2.

Barnett and Burton did not answer this question.