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The researcher as experimental subject: using self-experimentation to access experiences, understand social phenomena, and stimulate reflexivity

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Abstract

The current article argues that researcher-as-subject self-experimentation can provide valuable insight and systematic knowledge to social psychologists. This approach, the modus operandi of experimental psychology when the field was in its infancy, has been largely eclipsed by an almost exclusive focus on participant-as-subject other-experimentation. Drawing from the non-experimental first-person traditions of autoethnography, participant observation, and phenomenology, we argue that participating as both observer and subject within one's own social psychological experiment affords researchers at least three potential benefits: (1) access to "social qualia," that is, the subjective experience of social phenomena; (2) improved mental models of social phenomena, potentially stimulating new research questions; and (3) an enhanced ability to be reflexive about the given experiment. To support our position, we provide first person self-reflections from researchers who have self-experimented with transformed social interactions involving Milgram's cyranoid method. We close by offering guidelines on how one might approach self-experimentation, and discuss a variety of first-person perspective ethnographic technologies that can be incorporated into the practice.

Keywords: cyranoid, first-person methodology, Milgram, phenomenology, self-experimentation

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What counts as an experiment? The question has been asked by Winston and Blais (1996), whose analysis of textbook guidelines on experimental methods from an array of disciplines found that the field of psychology has come to adopt a uniquely rigid, narrow and uniform stance regarding how experiments are defined. They attribute this phenomenon in part to a belief which emerged during the 20th century among psychologists that third-person (i.e., participant-as-subject) controlled experimentation could produce knowledge beyond that provided by disciplines that make use of non-controlled or first-person methodologies, and that this knowledge could point toward means of reshaping individual and social behavior. This development has had the laudable aim of making experimental psychology rigorously scientific; however, it is a moot point whether a narrowing of focus and an exclusion of relevant data is indeed scientific. A consequence of an almost exclusive focus on third-person methodology has been the disappearance of a researcher-as-subject, first-person perspective approach to social psychological experimentation.

Any examination of the vast contemporary experimental social psychology literature will reveal the methodological orthodoxy regarding the role of the researcher vis-à-vis those who participate in research. The researcher is positioned as the expert *observer* who, from an ostensibly independent third-person position, evaluates a naïve *subject* who has been exposed to carefully operationalized stimuli. The range of subjective experiences of both the researcher and the subject are typically of secondary or negligible significance to the aims of the experiment as primary focus is placed on measuring a narrow set of activities or self-report items corresponding to pre-determined hypotheses. Upon uniformly gathering data from a critical mass of subjects, the researcher performs and reports the results of statistical

inference tests to validate, refine, or challenge theory - theories which themselves are usually defined from a third-person point of view in terms of *predicting* the behaviour of others.

So predominant is this basic template of experimentation within the discipline that it is hard to imagine experimental practice taking a different form. We argue that a different form is not only possible, but also evident in the origins of experimental psychology as an independent field of inquiry, wherein the laboratory approach often involved direct interaction among researchers and their subjects as well as a much more egalitarian and interchangeable relationship between these roles. Indeed, experimental psychology began as a discipline of researcher-as-subject *self*-experimentation. Though this orientation was largely abandoned in the early 20th century, traces of the approach have survived in genres of psychology closely aligned with anthropology and sociology, fields in which a non-experimental researcher-as-subject investigatory model is alive and well. Arguably, it also persists in experimental social psychology itself, feeding into the design and development of experiments, but it is rarely reported and given the legitimacy that it deserves. In the current paper, we revisit a particular technique of first-person self-experimentation developed in the late 1970s by the social psychologist Stanley Milgram (his "cyranoid method") and vet its utility as a tool for informing researchers as to certain experiential elements of social phenomena.

We should make it unambiguously clear at the outset of this endeavour that our purpose herein is not to challenge the position or validity of today's mainstream third-person approach to social psychological experimentation. We do not suggest that self-experimentation should supplant other-experimentation, but rather, that it might augment and enrich other-experimentation. We propose that the experimental method becomes impoverished by excluding the rich, lived-in, subjective first-person experience of research subjects from consideration and by making researcher-subject role segregation overly rigid.

The question is whether or not self-experimentation has anything to offer as an additional methodology, and whether or not such a methodology could uniquely service certain aims of social psychological researchers, namely those not sufficed by a third-person approach. Such open-ended questions can only be settled through a renewed discussion and reappraisal of the merits of self-experimentation (and a researcher-as-subject model more generally), and the current work is our initial contribution to such a reappraisal.

We feel strongly that revived focus on self-experimentation is warranted given how ethnographic practices, such as autoethnography and participant-observation (both in the real world and in virtual worlds), have evolved in recent years. Indeed, recent research provides many illustrations of how new technologies and digital methodologies enable forms of first-person perspective research (e.g., Lahlou, Le Bellu & Boesen-Mariani, 2015) that were unavailable (and perhaps unimaginable) to experimenters of prior generations, yet among whom many of the issues regarding the legitimacy of first-person self-observation methods were supposedly settled. Further impetus for exploring new formats of self-experimentation in social psychology is provided by recent debate concerning the status of phenomenology (and its primary method, introspection) in relation to psychology (see Dennett, 2007; Marbach, 2007), the details of which we will touch upon briefly. In our discussion we outline a number of procedural proposals for researchers interested in deploying first-person methodologies for self-experimentation, and argue that participating in one's own social experiment and being exposed to experimental manipulations first-hand affords researchers at least three potential benefits: (1) the acquisition of subjective experiential knowledge (i.e., "social qualia") regarding particular social psychological phenomena that could otherwise only be understood descriptively or indirectly through third-person perspective analysis; (2) the development of richer mental models regarding the nature of social phenomena in the world beyond the experimental setting, which in turn can stimulate new research questions;

and (3) the improved ability to be reflexive about an experiment by virtue of understanding the co-occurring perspectives within the experimental setting.

A brief history of psychological self-experimentation

In *Constructing the Subject: Historical Origins of Psychological Research*, Danziger (1990) traces the development and eventual eclipse of the researcher-as-subject model of psychological experimentation (also see Danziger 1980, 1985; Farr, 1996). He begins by discussing the first formal models of experimental psychology to emerge in the 19th century, the predominant being Wilhelm Wundt's Leipzig model and the Paris model. Wundt's model consisted of academic researchers, colleagues, and students engaging in a highly collaborative research enterprise in which self-observation methods were at the fore. Central to this model was Wundt's assertion that the ideal experimental subject was an expert observer - a psychologist trained in methods of self-perception capable of carrying out experiments on his or her own self (Kusch, 1995). Individuals involved in studying a particular psychological phenomenon would often exchange roles in an experiment, functioning at times as the experimenter and at other times as the subject (i.e., the expert observer), while the nature of phenomena would be deduced via collaborative analysis. However, alternative approaches being developed in Paris and London did not have any role or position exchange between subjects and researchers. The Paris model developed from the clinical assessment of patients in medical contexts and featured strict role segregation between researchers and subjects, with subjects serving as objects of study by expert clinicians. Meanwhile, Francis Galton's London laboratory entailed psychologists providing mental faculty testing services to members of the public in return for a fee, with strict division between the experts and lay people. Danziger (1990) notes how Galton's approach introduced the "multiplication of subjects" (p. 57) to psychology: as it was necessary for individual cases to be validly compared with one another, statistical inference was required,

thus necessitating both the transposition of mental phenomena into quantitative data as well as large sample sizes. The case of Galton is interesting, because he was also a systematic user of self-experimentation in his pioneering work on associations to places and words (Galton, 1879); he thus demonstrates how, in the early years of psychology, both self-experimentation and other-experimentation sat comfortably side-by-side.

Psychologists in the Würzburg school argued that Wundt's methods should be extended beyond rudimentary mental imagery into an exploration of the higher mental functions (Mischel, 1970; Wagoner, 2009). They sought to examine how thoughts come into being and how they change. Würzburg experimenters elicited qualitative accounts, and, recognizing that introspection could alter psychological processes, also made use of retrospection (Danziger, 1980). Broadening the introspective tool-kit enabled the Würzburg school to generate findings that challenged Wundt's simplistic accounts of psychological processes (Gillespie & Zittoun, 2010). At the same time, Edward Titchener, a student of Wundt, founded a large and highly influential structuralist psychology program at Cornell University and sought to establish his strict version of introspection as *the* indispensable experimental method for investigating higher mental functions (see Titchener, 1927). Despite the schisms among the early self-observationalists, there was common appreciation for a laboratory model in which the observer and subject were one and the same person (e.g., see Edwin Boring's self-experiments on sensory experience: Boring, 1915), and the researcher-as-subject approach enjoyed success in both North America and Europe during experimental psychology's formative years (Vermersch, 1999).

While Wundt's methods were criticized as being not subjective enough by the alternative schools of self-observation, they were criticized by others as being *too* subjective. This was the positivist repudiation of Wundt (Danziger, 1979). Psychologists such as Ebbinghaus and subsequently the behaviourists argued that Wundt's concepts were too

metaphysical and, consequently, not sufficiently observable. They advocated stripping down the method and focusing on more objectively observable phenomena such as behaviour. This intellectual shift coincided with practical demands in the United States for psychologists to deliver practical scientific findings to consumers of psychological research (e.g., government). Thus, there began a "fundamental shift of interest from the *analysis* of psychological processes, necessarily manifested in specific individuals, to the *distribution* of psychological characteristics in populations […] what emerged was an impersonal style of research in which experimental subjects played an anonymous role, experimenter-subject contacts were relatively brief, and the experimenter was interested in the aggregate data to be obtained from many subjects" (Danziger, 1985, p. 137). As an embrace of logical positivism throughout the natural sciences brought behaviorism to the fore of experimental psychology, self-observation was deemed by many as an inappropriate approach to laboratory science (Danziger 1979, 2000; Farr, 1983). As Farr (1978, p. 302) explains, "the experimenter now became the 'observer' and it was the *behavior* of the subject rather than his *experience* which constituted the raw data."

While behaviorism's third-person approach to experimentation supplanted the first-person model throughout much of psychology, there were notable exceptions. Specifically, a tradition of inquiry within social psychology grew out of Husserl's phenomenology, which was carried to the United States by Alfred Schutz and Gustav Ichheiser and inspired the thinking of people such as Berger and Luckmann (1967), Goffman (1959), and Garfinkel (1967). Consider Harold Garfinkel's (1967) "breaching experiments," wherein researchers would consciously exhibit a contextually inappropriate behavior in a mundane social situation in order to observe the social reactions elicited by such behavior as well as (and more relevant to the notion of self-study) to gain *experiential insight* into the nature of violations of social expectations (Rafalovich, 2006). Stanley Milgram, famous for his

controversial studies on obedience to authority (Milgram, 1963), adopted Garfinkel's approach in several field experiments. These included a study into whether random strangers on New York City subways would give up their seats upon request to a covert experimenter, and while the study primarily focused on the reaction and compliance of the subway riders party to these requests, Milgram had his experimenters record and reflect on their own emotions, behavior, and psychological states during the interactions (Milgram, 2010b). In another field experiment, Milgram's cohort of experimenters systematically intruded into waiting lines and reported on the range of emotions felt prior to, during, and after these norm-breaching events, thus directly experiencing the "inhibitory anxiety that ordinarily prevents individuals from breaching social norms" (Milgram, 2010c, pp. 49-50).

By the late 1970s, however, social psychology too began to more forcefully shed itself of the researcher-as-subject orientation as well as experimental approaches that featured high degrees of researcher-participant interaction as the field passed through what is now considered an era of "crisis" (see Adair, 1991; Elms, 1975). Under pressure to defend the discipline's position among the natural sciences at a time when experimental findings risked being exposed as non-replicable or otherwise untenable, researchers disavowed methodology deemed overly susceptible to intrusion from latent, uncontrolled phenomena (e.g., experimenter effects; Rosenthal, 1966). To counter the possibility of their findings being challenged as mere artifacts of experimental idiosyncrasy, social psychologists sought to sanitize their laboratories and experimental procedures of any and all potential confounds. This evolution stripped social experiments of their mundane realism, atomized dependent variables (Farr, 1978), and further solidified the notion that the first-person experiences of researchers were inappropriate objects of experimental evaluation. The modern experimental model which emerged from this era has been successful for cognitive third-person approaches to social psychology (Adair 1991), but has led to an entrenched methodological status-quo

generally unreceptive to pre-crisis (and Milgram-esque) methodology (see Shotter, in press).

Contemporary researcher-as-subject approaches

While a researcher-as-subject approach in social psychology has largely dissipated, one can still find traces of it in various corners of psychological science. Phenomenological psychology, for instance, lived for many decades far outside mainstream psychology producing Husserlian self-studies on the nature of experiential phenomena, yet has in the last decade attracted increased attention and elicited loud debate concerning whether an objective approach to understanding the mind can (and should) involve first-person research (for discussions on the historical trajectory of 20th century phenomenological psychology, see Giorgi, 1998; Klein & Westcott, 1994). Some proponents vigorously defend the practice and legitimacy of *auto*phenomenology (e.g., Marbach, 2007; Varela & Shear, 1999) in contrast to others who advocate a more guarded approach that seeks to verify first-person experience via third-person data (Dennett's *hetero*phenomenology; Dennett, 2007), while others point out that variants of introspective reports (e.g., self-report questionnaires) are ubiquitous throughout psychology as it is, and that the domains of emotion, attitude, memory, and developmental research attest to this fact (Wilson, 2003). Despite this renewed focus on phenomenology within psychology, phenomenological studies primarily involve subjects reporting to a researcher their beliefs about the conscious phenomena they experience in a given experimental condition, and most of the studies reported in the literature involve not social experiences *per se*, but basic perceptual experiences that speak more to researchers in cognitive science than to social researchers (for examples of typical contemporary phenomenological experiments, see Gallagher & Sørensen, 2006). Therefore, contemporary phenomenological psychology does not so much provide us with a template for a researcher-as-subject model of social experimentation as provide us with an example of a modern discipline that takes seriously the value in capturing experiential phenomena through first-

person experimental procedures.

Analogues to researcher-as-subject experimental social psychology have thrived in the non-experimental anthropological and sociological traditions of autoethnography and participant observation. Autoethnography is a self-referential form of qualitative analysis wherein a researcher becomes embedded in a particular social context and reports on the scope of his or her subjective experiences and self-transformations (Anderson, 2006). Thus, the primary data of autoethnographers are autobiographical first-person self-reflections (Chang, 2008). Participant observation, meanwhile, is a field methodology general to ethnography wherein the researcher actively assumes a participatory role with others in a given social frame, either overtly as a known-researcher or covertly in a "disguised role" (Becker & Geer, 1957). Indeed, one of the originators of participant observation, Bronislaw Malinowski, was heavily influence by Wundt while a student at Leipzig (Farr, 1983; Strenski, 1982). While neither autoethnography nor participant observation necessarily seek to make claims regarding phenomenological causality, each adopts a first person perspective stance that is similar to that found in the early self-observation experimental research. Autoethnography, with its researcher-as-subject orientation, embraces the value in experiential and self-reflexive knowledge, while participant observation, being rooted in interactivity, dissolves the traditional researcher-subject role boundaries common to modern experimentation and allows for direct interaction among researchers and their participants.

Some researchers within contemporary behaviorism advocate for a researcher-as-subject self-experimental approach. Neuringer (1981), for instance, outlines a number of potential advantages for experimental psychologists who practice and report self-experimentation, namely that it would catalyze experimental *process* discoveries as well as foster a heightened experimental ethic among communities of researchers. In a series of self-reflections on the benefits of long-term psychological self-experimentation, Roberts (2004,

2012) argues that in addition to allowing the researcher to test new concepts cheaply, positioning oneself as both experimenter and subject generates the types of experiential knowledge from which one may formulate new research ideas distinct from those that arise through synthesizing empirical literature. Much of this advocacy points to the long-standing tradition of self-experimentation in the medical sciences, wherein vital breakthroughs have emerged through self-study (e.g., Nobel Prize recipient Barry Marshall's controlled ingestion of *H. pylori* bacteria which revealed its culpability in causing gastritis). While the nature of researcher-as-subject self-experimentation of the sort we're advocating does not involve subjecting oneself to potential harm, the example of the medical tradition as well as the modern calls from within behaviorism (the movement which, after all, was instrumental in ridding psychology of its first-person orientation nearly a century ago) suggest that perhaps it is time for a larger discussion within social psychology regarding the possibility of a contemporary researcher-as-subject model of experimentation.

Milgram's cyranoid method

Our own interest in self-experimentation began by delving into the life and work of Stanley Milgram, who as the field experiments described above suggest, oriented to a phenomenological approach to social psychology (see Zimbardo, 1992). He is known for his ground-breaking research, his highly exploratory methods of experimentation, as well as his penchant for participating in his own studies. Milgram's (2010b, 2010c) breaching experiments attest to the fact that his desire to understand the social psychology of others was equally matched by his desire for he and his fellow researchers to learn about *themselves* through the process of experimentation. In this regard, his cyranoid studies - conducted in the years leading up to his death, and never formally reported - provide one of the more striking examples of his first-person approach.

Milgram's cyranoid studies involved first training research confederates to speech

shadow (i.e., replicate the speech of a third-party in near real-time; see Marslen-Wilson, 1973), and subsequently, by-way-of covert radio relay, conversing through these shadowers with research participants who were unaware their conversation partner was merely replicating Milgram's words (Milgram, 2010a; Blass, 2004). Milgram's participants repeatedly failed to detect that their interlocutor was a speech shadower, seemingly taking for granted the verbal autonomy of the person with whom they interacted (a phenomenon referred to as the "cyranic illusion"). He called the hybrid agent composed of his mind (or rather, words) and a shadower's body a "cyranoid," a term that paid homage to the character Cyrano from the play *Cyrano de Bergerac*.

The theoretical thrust of the cyranoid studies involves questions regarding the relationship between person perception and the subjective experience of self. Milgram (2010a) felt that with the method people could experience "radical deformations" (p. 408) of self during social interactions mediated by a shadower's body that was vastly divergent from their own in terms of gender, ethnicity, age, social status, and so on. At the time of Milgram's cyranoid studies it was well known that people stereotype other individuals on the basis of their outward identity (e.g., Cantor & Mischel, 1979; Tajfel, Sheikh, & Gardner, 1964) and that people's behavior in many ways confirms the stereotypes held by others (e.g., Snyder, Tanke, & Berscheid, 1977), but experimental validations of these phenomena were largely, if not entirely, third-person in nature. So whereas the traditional literature showed *that* people stereotype (along with descriptions on the nature of stereotyping in various contexts), Milgram invented an experimental technique whereby one could systematically manipulate the experience of *being* stereotyped during social interactions in accordance with the outer identity of an interchangeable shadower.

In his most elaborate iteration of the cyranoid method, Milgram (2010a) separately sourced for 11- and 12-year-old children while being interviewed by panels of teachers

tasked with assessing their interviewee's intellectual capabilities (for a replication of this study, see Corti & Gillespie, 2014). The teachers were unaware their interlocutors were in fact shadowers articulating the words of a college professor, thus Milgram experienced conversing with these teachers as though he had the identity of a child. In his self-reflections following these interactions, Milgram noted that despite his best efforts to impress the teachers with his knowledge (he was, after all, a Harvard-educated professor), the outer persona of his child shadowers restricted to a large degree the manner in which teachers engaged with him. As the teachers believed they were speaking to a child, they naturally addressed their interviewees as children despite the sophisticated responses Milgram produced, leaving him unable to signal the full scope of his intelligence to the participants. His sole reportage of these studies is very autoethnographic in tone and comes in the form of a speech he prepared for an American Psychological Association convention in Toronto in 1984, an excerpt from which reads:

> "The technique is an extraordinary prism through which to understand how people form judgments of others. For in a significant degree, the opinions of teachers formed of our child cyranoids depended as much on the teacher as on the child, and the questions asked and avoided. Teachers varied in how they approached questions… the worst never seeing beyond the possibilities of an average 11-year-old…Often, teachers themselves simply did not have the knowledge, information, or inclination to ask adequate questions… We thus see very clearly how the impressions people form are to some extent generated by their own interaction with the stimulus person, the things they bring out and suppress" (Milgram, 2010a, p. 407).

A method for self-experimenting with altered identities

The interchangeable componentry of the cyranoid method provides a highly versatile means for researchers to explore transformed social interactions. There are three parts to a cyranic interaction: (1) the *source* (the person whose mind provides words to the shadower), (2) the *shadower* (the person whose body reproduces the source's words), and (3) the *interactant* (the person who converses with the shadower face-to-face and who may either be aware or unaware that their interlocutor is a cyranoid). A researcher may assume any of these three positions. Milgram's (2010a) studies are an example of a researcher experiencing a social encounter with an alternate outer identity in that he sourced for differentiated shadower-types. However, one may also take the position of the shadower and in doing so experience social encounters wherein the words one contributes are not one's own, but that of a remote source. A researcher may also experience socializing from the perspective of the interactant and encounter cyranoids whose outer identity is readily perceivable but whose inner identity (that of the source) is not. Furthermore, multiple sources and/or shadowers may be used. For example, one source may speak through two or more shadowers and in doing so experience what it is like to simultaneously be different people in a social setting; and likewise, two or more sources can control a single shadower, creating a situation whereby multiple individuals are projected through a single body.

In addition to their unique phenomenological qualities, each of the three positions within a cyranic interaction can be distinguished in terms of the research questions they raise. For example, if one wishes, as Milgram had, to experience being perceived as someone quite dissimilar from one's real self, one may take the position of the source and self-experiment with different varieties of shadowers. Such scenarios raise classic questions about the nature of identity and social perception (e.g., how a source's behavior may confirm stereotyped assumptions about their shadower; see "the Proteus effect": Yee & Bailenson, 2007). On the other hand, by assuming the role of a shadower a researcher can investigate, for example,

how their inner cognitions and sensations vary in accordance with the words they shadow, which may diverge from their own communicative tendency in terms of structure, idiosyncrasy, ideology, cultural disposition, and so on. Finally, by taking the perspective of an interactant, a researcher may self-experiment with issues such as heuristic and systematic communicative information processing; for instance, one may observe oneself gauging the overt characteristics of an interlocutor (e.g., their physical appearance) in relation to the informational value in what they speak.

Cyranoid analogues in virtual ethnography and autoethnography

We can connect the cyranoid method to contemporary ethnographic and autoethnographic research on the experience of self in transformative contexts. Milgram's (2010a) fascination with cyranoids arose from considering the "psychological consequences" of a "hypothetical world in which the thoughts of one person would come out of another person's mouth" (p. 402), and though such a world in a literal sense does not exist (today), online virtual worlds such as the immersive 3-D platform Second Life serve as perhaps the closest conceptual analogues. In these communities, users socialize through avatars: digital self-representations that may or may not mirror the self of reality. Avatars allow users to engage in what Nakamura (2002) calls "identity tourism," wherein one can experience the world through the eyes of whatever persona they wish to concoct. The last two decades have seen growing concentrations of literature from researchers who have purposely augmented their identity in online worlds in order to examine the relationship between first-person perception, self-reflection, and the co-construction of social phenomena (for an overview, see Williams, 2007). For instance, in the context of an ethnographic study of a Second Life community, Boellstorff (2008) describes how "newbies" (a term for users with limited/superficial familiarity with Second Life) are identified on the basis of whether or not their avatar's physical characteristics resemble the default settings of the software (thus

suggesting restricted understanding of the more refined aspects of the platform), and subsequently how this identifier in many respects shaped the nature of his interactions with other virtual users. In an autoethnographic account, Dumitrica and Gaden (2009) describe the nature of gender-role construction and reproduction within Second Life and reflect on the experience of embodying various physically-differentiated avatars while developing a first-person sense of the social norms and roles that were subsequently expected of them by other users in accordance with these outer identities.

Virtual self-studies of this kind have been demonstrated as a reflexive practice. Gottschalk (2010) states that "we must both be self-reflexive about how we represent ourselves in virtual spaces and keep in mind that we can choose to represent ourselves in ways that will facilitate access, entrée, and rapport" (p. 520). Reflexive cogitations, according to Ikegami (2011), occur quite readily during avatar-embodiment, as an awareness of one's ability inhabit a plurality of outer personae leads to reflections regarding the extent to which the self and its intersubjective experiences are shaped by outer appearance. She invokes Young and Whitty's (2010) maxim regarding cyberspace and embodiment: "the more we try to disengage with the body, the more its importance is revealed to us" (p. 209). By extension, we can see how the cyranoid method can serve as a tremendous resource to self-experimenters: it allows us to systematically step outside of ourselves and into a new identity, and thereby experientially gain knowledge as to how outer identity is connected to the social phenomena we hope to understand.

To showcase the quality of unique insights this method provides, the following section provides three first-person accounts from researchers who self-experimented with the cyranoid method in different social contexts.

Reflections from researchers who have self-experimented with cyranoids

Participating in decision-making groups via age-differentiated shadowers

Context. The study undertaken by KC (first author) concerned the experience of having to argue before a decision-making group in favour of a counter-intuitive strategy related to a resource-prioritization task (the *Subarctic Survival Situation*; Lafferty, 1987) through covert shadowers differentiated by age-group. At issue was whether or not these experiences would differ on account of whether or not the shadower's age-group, and therefore the researcher's perceived outer identity, aligned with that of the other group members.

There were two conditions in the study, a Young-adult condition in which KC (a Caucasian male, aged 25) sourced for a young-adult shadower (Caucasian male, aged 22) in four separate discussion groups, each composed of between four to seven young-adult research participants (mean age = 24.2), and a Middle-aged condition in which KC sourced for a middle-aged shadower (Caucasian male, aged 44) in four separate discussion groups, each composed of between four to eight young-adult research participants (mean age = 23.8). Research participants were recruited from a major North American city via internet advertisement. The conditions were designed such that in the Middle-aged condition the shadower was clearly the most senior member of each group in terms of age, whereas in the Young-adult condition the shadower was roughly the same age as other group members. Though research participants were aware their discussions were being observed remotely by the researcher, none were aware until a debriefing session following the interactions that the researcher was in fact communicating through a covert shadower as a confederate group member. Each group discussed solutions to the survival simulation for 15 minutes, during which KC, through the body of a shadower, argued in favour of an objectively terrible strategy (according to Lafferty, 1987). KC, who was positioned in a sound-proof room adjacent to the discussion, observed groups via an audio-visual feed and provided words via a covert radio apparatus that transmitted to a discreet inner-ear radio receiver worn by the

shadower.

Reflection.

"I entered this study with no firm expectations as to how my experiences would differ depending on the identity of the two shadowers, but it did not take long to notice differences. Though in reality I was in the same age cohort as the participants in my study, I found myself having to work harder to convince the decision-making groups of my strategy when I communicated through the middle-aged shadower compared to when I communicated through the young-adult shadower. This boiled down to the fact that participants in the middle-aged condition asked of me many more questions regarding the strategy I advocated, and therefore I had to generate many more on-the-spot rationalizations for my position. Even though the strategy I was advocating was designed to be terrible, I received many more supportive comments from the participants when I sourced for the middle-aged shadower, a pattern I attributed to the fact that in these conditions I was seen as far-and-away the most senior member of the group in terms of age, and this somehow made me worthy of more flattery than the strategy I was espousing deserved.

"The experience has certainly illuminated for me the role of outer identity in mediating social experience. Far from just a narrow range of phenomena changing depending on the body of my shadower, the nuances of the group discussions seemed to change on account of my shadower's identity as well. For instance, as fewer questions were asked of me when I sourced for the young-adult shadower, I felt a strong urge to speak for longer and with more emphasis when a question or comment was directed to me in comparison to when I sourced for the middle-aged shadower. In other words, as opportunities to exert influence were rarer in the Young-adult condition, I felt I had to make the opportunities count for more, the effect of

> which was that my overall tone in the Young-adult condition was somewhat more serious and my statements were more measured. This has made me more reflective of the intimate connection between identity and social perception, and how joint activities can traverse an entirely different trajectory depending on one's outer appearance.
>
> "The knowledge I took from the study included a more acute awareness of how the subtle aspects of stereotyping shape social interactions, even if in an innocuous way. Having age-seniority in the Middle-aged condition discussion groups allowed me the time and space to articulate my ideas, and consequently, opportunities to exert influence (for better or for worse). Perhaps in real world contexts being given an opportunity to speak on the basis of one's supposed identity can inflate a person's sense of importance and/or the value of their ideas in the eyes of other group members." (KC, first author)

Experiencing job interviews as both a male and female applicant

Context. EC's (third author) study took place in a Canadian branch of a publicly traded multinational organization. The cyranoid method was employed to allow the researcher to experience the dynamics and social exchanges of personnel selection interviews through the body of different applicants (shadowers), and consequently, the hiring decisions. 20 employees were recruited as participant-interviewers and randomly assigned to one of two conditions, a Male-applicant condition (in which the shadower was a 26-year-old Caucasian male actor) and a Female-applicant condition (in which the shadower was a 29-year-old female fashion model of mixed Asian and Caucasian descent). When selecting shadowers, best attempts were made to control for relative physical attractiveness, and cyranoids were trained so that each would have consistent body language across experimental trials. This was so that any variability in experience between the two conditions could be attributed to the

gender difference between the shadowers. EC was then separately interviewed by the participant-interviewers (90% of whom were male) in trials that alternated by condition, resulting in 10 interviews and evaluations for both the Male-applicant and Female-applicant conditions. During the interviews, EC watched over a live audio-visual feed from an adjacent room and transmitted responses to the shadower via a hidden earpiece (in a manner similar to that employed in the aforementioned study).

Employees were told that they were participating in a research study on decision-making and that they should make best attempts to evaluate whether the applicant was suitable to hire. After each trial, participants were made aware of the cyranic nature of the interactions in a debriefing session. In the end, the applicant in Female-applicant was recommend for hire 9 out of 10 times versus 6 out of 10 times for Male-applicant.

Reflection.

> "It was, in short, an astonishing experience. The body of the candidate markedly influenced the social dynamic within the interview and to experience these differences first-hand was thrilling. These interviews were unlike any interviews I had been in myself, suggesting that there were forces beyond gender alone at play. First, let me describe the experience of sourcing for the female shadower. While I myself am female, I am not a fashion model. In the body of the female shadower, I often felt that my interviewers were gazing at me, sometimes to the point of flirtation. They treated me very politely, perhaps like men are 'supposed' to treat ladies. I felt myself responding in kind and muting or exaggerating my personality to resonate most with how the interviewers saw me. Overall, interactions felt friendly. I laughed authentically when sourcing for the female shadower, as opposed to nervously when I was sourcing for the male shadower. Questions were general and conversational: 'Why do you want to work in this

industry?' or 'What was your exchange program like in Australia?' It seemed that I had to say something erroneous before I lost the good favor of the interviewer. Through the female shadower I was relaxed to the point that I could enjoy the dialogue that took place in the interview and could build genuine rapport – a likely consequence of the affirmative responses and head nods I received.

"Being interviewed as a man by other men was a novel experience. Interviews began in a collegial manner and indicative of a tone that I would expect in the locker room of a male sports team. With more senior interviewers, the tone often turned combative and I felt overwhelmingly defensive. Questions were pointed and challenging: 'Why should I hire you?' or 'What value will you add to our team?' I was climbing up hill from the start to prove that I was a worthy candidate for hire. I sat on the edge of my chair, sweating, as I did my best to respond to the litany of questions thrown at me. While the questions asked of the male shadower were more difficult, within them lay more opportunities to showcase expertise, so through the male shadower I had more openings to demonstrate industry knowledge than when I sourced for the female shadower.

"To experience this setting as a first-person observer was a unique and robust means to gain insight into my research question. Without it, I never would have felt what it was like to be a fashion model, or treated like one of the guys, and to what extent such differences impact job interviews. This method allowed me to actively experience the perspective of another beyond what I could empathize on my own, and shed light on a series of other questions I might not have otherwise considered. Surely there are many practical applications in both research and the field that could entail experiencing the world through the eyes of another" (EC, third author).

Shadowing for a chatbot computer program

Context. The self-experiment in which GR (second author) participated involved dyadic social interactions involving a computer-human hybrid cyranoid. Rather than shadow for a human source, the researcher utilized Cleverbot, a web-based artificial intelligence program known as a "chatbot" designed to engage in text-based conversation (Carpenter, 2014). Thus, the cyranoid in this study had the "body" of a human (GR) and the "mind" of a computer. Participants in the study were a mixture of university students and adults recruited from a large European city and were randomly assigned to one of two conditions: Know and Don't Know. Both conditions involved participants engaging in 10-minute face-to-face dyadic conversations with GR (a 30-year-old female), and in both conditions GR merely shadowed the words Cleverbot provided while speaking none of her own thoughts. Participants were told they could speak to their interlocutor about whatever topic they liked. Participants in the Know condition were instructed before interlocution commenced that their interlocutor would be repeating words from a chatbot, while in the Don't Know condition it was not until after the interactions were complete that participants learned their interlocutor had merely been repeating the words of a computer program.

To allow for spoken communication between the computer-human hybrid cyranoid and the participant, the services of another researcher were used. From a room adjacent to where GR engaged the participant, the second researcher listened to the conversation via a wireless microphone. When the participant spoke, this researcher would speed-type the participant's speech into the Cleverbot program and then speak Cleverbot's response to the input text aloud into a microphone connected to a covert radio relay that transferred audio to an inner-ear radio device worn by GR.

Reflection.

"I found out very quickly that shadowing for a computer program

is not nearly as easy as I had envisioned it to be. The conversations deviated considerably from what one might consider 'normal.' The chatbot frequently generated completely irrelevant and downright nonsensical statements, leaving me in the position of having to say these things aloud while keeping a straight face. I was more conscious of my facial expressions during these interactions than I am normally, and I tried to keep smiling no matter what the topic of conversation was or how strange conversations became. I had to suppress my laughter a number of times given the unpredictable responses the chatbot gave and the subsequent reactions by participants. At times I was frustrated with the inability to communicate my own thoughts and feelings to the participants, especially when the topic of conversation was something I was genuinely interested in. There were moments when it was particularly awkward, such as when the chatbot would discuss 'my' sexual orientation, or when male participants - knowing I was simply speaking what a computer program had generated in response to their statements - would flirt with me.

"The experience has made me dramatically more aware of the mundane things that scaffold informal conversation. For instance, even in the condition where people knew I was simply repeating the words of a chatbot, participants continued to address me as if I was capable of responding in a human-like manner. I felt, in other words, that what persisted despite the abnormality of the situation was a strong desire on both my part and that of the participant to establish a human connection. In the face of repeated misunderstanding, there was a consistent urge to re-establish shared meaning. Furthermore, the experience has made me more aware of the role short term memory plays in buttressing understanding in conversations. The chatbot had an inability to remember the context of a conversation beyond several turns, thus conversations would fall into confusion whenever the participant would bring up something they or the chatbot had said at an earlier part of the conversation.

> "As a researcher, I feel that the experiment produced many important insights. I began to understand, to some extent, how challenging it must be for someone who is limited in terms of language (e.g., by a communication disorder) to communicate with someone else who does not possess the capacity to understand them. I felt internally capable of establishing understanding with the participants but was incapable (by design, in this case) of actually doing so. Furthermore, the experience has made me more reflexive with regard to the role my outer identity plays in mediating communication, and has prompted me to want to look closer at the connection between attractiveness and perceived intelligence and its subsequent impact on psychological well-being. Drawing from the example of participants continuing to flirt with me despite the ridiculous words I was speaking: do a person's physical attributes lead another to look past their extreme inability to communicate thoughts in a coherent fashion?" (GR, second author).

General Discussion

Benefits of self-experimentation

Accessing social qualia. Subjective self-reflections of the kind reported above illustrate the notion that via self-experimentation a researcher gains access to experience, which is itself a form of information that is not merely descriptive; it is experiential. Philosophers refer to this type of information as "qualia" (Jackson, 1982), and it is often invoked in defense of the notion that conscious phenomena cannot be fully understood until they are known both in terms of their objective third-person description as well as through subjective first-person experience. Thomas Nagel's (1974) "what is it like to be a bat?" thought experiment illustrates this point well: if all of the energies of every scientist in the world were directed toward studying the bat, it might be possible to arrive at a profoundly

complete description of the species, yet the subjective experience of any one bat would remain utterly unknown. This paradox is present for human phenomena as well. For instance, in social psychology we now have many models and experimental validations describing social stereotyping and behavioral confirmation in relation to identity, but in what sense does reading this literature provide one with the *experiential* knowledge of being stereotyped? What is clear in the self-reflections provided in the current work is that each researcher had the ability to directly experience being stereotyped, whether due to age, gender, or physical appearance, and - importantly - the cyranoid method allowed the researchers to *systematically control* the conditions that gave rise to certain forms of stereotyping. This is evidence for the utility of a researcher-as-subject social psychological experimental model in that such a model, in being a route to social qualia, could operate in conjunction with traditional experimental approaches to provide the researcher with a more complete understanding of investigated phenomena, an understanding rooted in both description *and* experience.

Building mental models. Another benefit to self-experimentation is that it allows researchers to develop more precise mental models about the phenomena they study. By mental model we simply mean a person's internal representation of how various components of their environment (including social processes) operate in relation to each other (see Schumacher & Czerwinski, 1992; Klimoski & Mohammed, 1994). Mental models are acquired and developed via biological affordance, cultural learning, socialization, and lived experience (Johnson-Laird, 1983), and it is to this last category that self-experiments can contribute, for they enable social researchers to directly experience the phenomena they wish to understand and thereby obtain a subjective and lived awareness of the properties involved. This is evident in the self-reflections shown in the present article, as each researcher commented on how self-experimenting enhanced their internal representations of particular social phenomena that occur outside the experimental setting. Moreover, we suspect on the

basis of the above-described self-reflections that there is a strong relationship between broadening and enhancing one's mental models with regard to social psychological phenomena and the creative process of developing new research questions (for further discussion on self-experimentation as a source of idea generation, see Cabanac, 2004; Lubart & Mouchiroud, 2004; Roberts, 2004).

Enhanced reflexivity. Doing self-experimentation is akin to being an ethnographer within one's own experiment, and the anthropological models of autoethnography and participant observation have much to offer a social psychological approach to self-experimentation. In particular, these research practices remind us of the maxim expressed in Habermas' (1968) classic work *Knowledge and Human Interests*: that we cannot escape our role in constructing knowledge and that the best we can do is be reflexive about our role in producing knowledge. To be reflexive means being able, to some extent, to step out from one's own role in both creating the research situation and constructing it. Especially in qualitative research it is common practice to extol the importance of reflexivity and critical thinking about one's own role in research (Cornish, Zittoun, & Gillespie, 2014; Denzin & Lincoln, 2000). But, exactly how is one meant to be reflexive about one's own research? Building on the idea of position exchange (Gillespie & Martin, 2014), that self-reflection can originate in exchanging roles or social positions, we propose that researchers moving between the social positions in their own experiment might be a viable route to becoming more reflexive about the given experiment.

In a sense, being the object of one's own experiment is a means of traversing the landscape of possible experiences and perspectives related to the different conditions within an experimental design. In the examples given in the current work, we see how a particular form of self-experimentation that made use of the cyranoid method enabled each researcher to become more reflexive with regard to the role of identity in shaping social experience as

the various experimental conditions brought different aspects of identity to the fore. Given these results, it would be refreshing if it became common within experimental social psychology for researchers to report reflexive self-observations of experiments (even if only for pilot trials) together with standard observational third-person findings so that those who access this literature could become more fully attuned to the perspectival variety inherent in experimental scenarios.

Some thoughts on how social psychologists might approach self-experimentation

The distinction between laboratory and field experiments applies as much for researcher-as-subject designs as it does for traditional third-person designs. Study 1 and Study 3 are both truer to the logic of traditional laboratory experiments in the sense that each researcher experienced systematic and repeated iterations of different experimental conditions in a controlled laboratory. By contrast, Study 2, having been conducted in an office environment, is more of a field experiment akin to Milgram's subway and waiting line studies, though it too involved the researcher experiencing repeated iterations of separate conditions involving participants with no explicit knowledge of the experimental manipulation. Thus, a researcher-as-subject model of self-experimentation seems viable for both laboratory and field studies.

Another issue concerns what, exactly, one should be observing in a self-experiment. Should one enter into a self-experiment with a predetermined set of dependent measures to systematically observe (e.g., one's psychological states)? Alternatively, should one adopt a blank slate approach, beginning with a simple experimental design and prioritizing what to observe once in the midst of the experiment? Or should one approach self-experimentation not at all as a formal data-gathering exercise, but simply as a means of accessing experience? Our own perspective is that the answer to each of these questions is *yes*. None of the benefits of self-experimentation outlined above necessarily require any sort of formal data-gathering,

yet there certainly can be benefits to having specific dependent measures, particularly if a researcher's aim is to perform a combined analysis of first-person and third-person data. KC (Study 1) performed a content analysis using transcripts from the interactions to identify how their conversational engagement style compared between experimental conditions. Similarly, EC (Study 2) coded the quality of her responses to interviewers' questions to assess through which shadower (male vs. female) she more often produced ideal responses. GR (Study 3), meanwhile, recorded detailed notes following each experimental iteration describing the subjective sensations she experienced. While it is true that third party observers could also have arrived at the data recorded by KC and EC (the data being overtly behavioral in nature), only the researchers themselves are in a position to make inferences based on the data that incorporate both first-person and third-person perspectives.

As a final note, researchers who do opt to incorporate formal data-gathering techniques as part of a self-experiment may want to consider the growing number of technologies designed specifically to capture first-person perspective data in social environments. These include the SubCam, a discreet head-mounted video camera that captures a social actor's visual field that has been used for first-person ethnographic analyses in occupational field studies as well as in experimental contexts (see Glăveanu & Lahlou, 2012; Lahlou, 2010, 2011). Other commercially available devices include lifelogging wearable technologies such as the BodyMedia FIT, designed to measure, among other things, sleep quality, galvanic skin response, and heart rate (for an overview of "quantified self" devices, see Lee, 2013). Microsoft's SenseCam, a wearable camera that captures still images at adjustable intervals, has been used for first-person perspective analyses of routine activities related to, among other things, health and energy consumption (see Doherty et al., 2011; Gurrin et al., 2008) and has also been used to enhance the reflexive practices of teachers in classroom environments (Fleck & Fitzpatrick, 2009). Each of these technologies captures a

specific format of data (often capturing multiple formats simultaneously) and enables the researcher to go well beyond traditional self-reflection and introspection when conducting a self-experiment. The SubCam, for example, allows a subject (for our purposes, a researcher) to revisit their subjective experiences and temporally reconstruct their psychological states "at the moment of action" (Lahlou, 2011, p. 607). Such data, if collected methodically, can enable a variety of comparative analyses between conditions in a self-experiment. Quantified self devices have the advantage of being discreet, unobtrusive, and can be worn for long durations, thus enabling long-term self-experimentation as well as self-experimentation in remote field settings where the traditional tools of the lab may be unavailable.

Conclusion

There will always be an explanatory gap between the experience of the actor and the description of the observer (Farr, 1996). The experience of an action and the observation of an action will necessarily feel different, with each yielding a distinctive form of knowledge. Recognising this fracture as insurmountable entails opening social science up to a perspectival ontology, that is, the proposition that the social world comprises many potentially incommensurable perspectives (Mead, 1932). In the face of such plurality, what is the social scientist supposed to do? Rather than narrow the field of view to focus only on that which can be observed, we encourage experimenters to augment what is observed with what is experienced.

What we advocate is not so much an innovation as an appeal to acknowledge and legitimize what every good social experimenter does anyway, namely, walk through their own experiment, exploring the experiences that the protocol creates, and tweaking that protocol towards validity. Often this stage of research is relegated to the pilot phase and not written up. Yet, it is done; why? Because doing so is useful. Seeing the experiment from the point-of-view of a would-be participant, among other things, helps us to understand the

relationship between independent and dependent variables, to work out hypotheses, and to develop and organize new avenues of research. Self-experimenting helps us to understand ourselves better and reminds us of how important it is to confront the nature of experience created within an experiment directly. All we are suggesting is that this practice is necessary and valid, that it deserves its own conceptualization as a valuable tool on the mantle of acceptable, recognized modes of inquiry, and that it can be sought for its own ends.

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