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SPECIAL SECTION: HETERODOX ISSUES IN PSYCHOLOGY

Psychological Barriers to Evolutionary Psychology: Ideological Bias and Coalitional Adaptations

David M. Buss
University of Texas at Austin

William von Hippel
University of Queensland



A B S T R A C T

In this paper, we argue that four interlocking barriers stand in the way of research scientists who seek to understand human social psychology. The first barrier is the political ideology of most social psychologists, which is typically on the left (or liberal) side of the spectrum. The second barrier is a view of human nature common among people on the political left, which is that we are born without any predilections to behave in a particular manner. According to this view, our mind is a blank slate at birth and is corrupted solely by the ills of bad environments or societies. The third barrier is a tendency to reject theories and findings that might contravene the “blank slate” view of human nature, particularly theories and findings that arise from evolutionary approaches to human behavior. The fourth barrier is a collection of evolved tendencies that prevent investigators from being dispassionate seekers of scientific truth. These include our evolved tendency to be more focused on persuasion than truth-seeking, to be concerned with the maintenance of our prestige as scientists, and to form and maintain coalitions that compete with each other. We provide initial evidence for some of these possibilities with data gathered from a survey of 335 established social psychologists. We conclude with the irony that our evolved psychology may interfere with the scientific understanding of our evolved psychology.

S C I E N T I F I C A B S T R A C T

In this paper, we argue that four interlocking barriers beset psychologists seeking to develop a proper science of social psychology. The first is the ideological orientation characteristic of most social psychologists—heavily skewed on the left side of the political spectrum. The second is the adoption of a view of human nature that social psychologists believe to be most conducive to that ideology—a blank slate that is corrupted solely by the ills of bad environments. The third is a rejection of theories and findings believed to contravene that view of human nature—those coming from evolutionary

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David M. Buss, Department of Psychology, University of Texas at Austin; William von Hippel, Centre for Psychology and Evolution, School of Psychology, University of Queensland.

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The authors have made available for use by others the data that underlie the analyses presented in this paper (see Von Hippel, 2015), thus allowing replication and potential extensions of this work by qualified researchers. Next users are obligated to involve the data originators in their publication plans, if the originators so desire.

 The data are available at <https://osf.io/8zeqp/>

 The experiment materials are available at <https://osf.io/5jqmn/>

Correspondence concerning this article should be addressed to David M. Buss, Department of Psychology, University of Texas at Austin, 1 University Station, A8000, Austin, TX 78712. E-mail: dbuss@austin.utexas.edu

approaches to human behavior. The fourth is a suite of evolved psychological adaptations that actively impede an understanding of evolutionary psychology—adaptations for social persuasion rather than truth-seeking, adaptations for prestige maintenance, and adaptations for forming and maintaining in-group coalitions and for punishing competing coalitions. We examine these scientific impediments with empirical data based on a survey of 335 established social psychologists from the premier scientific society, The Society for Experimental Social Psychology (SESP). We conclude with the irony that our evolved psychology may interfere with the scientific understanding of our evolved psychology.

Keywords: evolutionary psychology, ideology, scientific bias, social psychology

Humans have not evolved for dispassionate scientific inquiry. Science is a recent invention, at least when considered in the context of the deep time of human evolutionary history. Some date the beginning of the scientific enterprise to the year 1543, when Copernicus published his work on celestial spheres. Others go back to the astronomy and geometry of Ancient Egypt. But whichever date one proposes for the origins of science, it has been around for a tiny fraction, less than 1%, of our history as a species. A strong case can be made that science is an evolutionarily unnatural enterprise for which humans are singularly unprepared (Cromer, 1995; McCauley, 2011; Wolpert, 1994).

On the other hand, perhaps that judgment is too harsh. Some argue that humans are “intuitive scientists,” in which case science in some form would have long preceded the origins of formal scientific disciplines and procedures. “Core knowledge” psychologists make a compelling case that humans evolved adaptations to apprehend physics, biology, and the psychological states of other humans—adaptations that capitalize on deep-time recurrent statistical regularities in those domains (e.g., Atran, 1998; Baron-Cohen, Leslie, & Frith, 1985; Gopnik, Meltzoff, & Kuhl, 1999; McCloskey, Washburn, & Felch, 1983).

Although these psychological adaptations help humans navigate the physical, biological, and social worlds, they can be notoriously misleading in furnishing a proper scientific understanding of those worlds. For example, Einstein’s predictions that time and space can be warped by gravity have been empirically supported, but are counter-intuitive to almost all nonphysicists. Folk biology leads people to see species as possessing unchanging essences, a view that contravenes what is now scientifically known about the origins and constant evolution of species. Adaptations for “theory of mind” facilitate at least the partial prediction of behavior based on inferences about the beliefs and desires of other people. But those same mechanisms are famously ill-equipped for understanding the causal processes that produced those minds as well as the information processing machinery by which those minds operate. Humans are good at inferring attention and interest from eye gaze, for example, but are clueless about the underlying mechanisms that enable human vision.

To compound these problems, a variety of cognitive biases actively impede dispassionate scientific inquiry. Humans often seek confirmatory evidence for their hypotheses and fail to search for evidence that might disconfirm them, ignore base rates in the relevant sample space, and are overly influenced by vivid and accessible individual instances (Tversky & Kahneman, 1973). People are often overconfident of the accuracy of their judgments (e.g., see Kahneman, 2011; Thaler, 2015). All these human biases can impede scientific inquiry.

In this paper, we argue that four additional and interlocking barriers beset social psychologists¹ seeking to develop a proper scientific understanding of their own species. The first is the ideological and political orientation characteristic of most social psychologists—heavily skewed on the left side of the political spectrum. The second is the adoption of a view of human nature that social psychologists believe to be most conducive to that ideology, notably a blank slate that is corrupted solely by the ills of poor socialization and corrupting cultures. The third is a

rejection of theories and findings that social psychologists believe contravene their views of human nature—notably those coming from evolutionary approaches to human behavior. And the fourth is a suite of evolved psychological adaptations that actively impede an understanding of evolutionary psychology—adaptations for social persuasion rather than truth-seeking and adaptations for forming and maintaining in-group coalitions and competing with out-group coalitions.

Importantly, we are not arguing that this list is exhaustive. For example, on their initial foray into evolutionary psychology, some psychologists might encounter work of poor quality or work that has not been replicated, which might leave them unimpressed with the entire discipline (of course, the same holds for any discipline). Additionally, some social psychologists appear to be unfamiliar with experimental work in evolutionary psychology, and thus believe that the enterprise is based on just-so stories explaining known empirical observations rather than rigorous theory testing. As the Nobel Laureate behavioral economist (and sometime social psychologist) Richard Thaler tweeted, “Name a new fact that was discovered through a prediction based on evolutionary psychology. Try it. Hard.” No doubt he found it hard because he isn’t an evolutionary psychologist, just as we would be hard-pressed to name new facts that were discovered through predictions based on behavioral economics. Nonetheless, such a list would include thousands of findings, including research on: parent-offspring conflict; sex differences in mate competition, mating strategies, and jealousy; cheater detection; temporal discounting; interpersonal aspects of self-enhancement; the role of pathogens in prejudice; and the list goes on.

The Dominant Ideology of Social Psychologists Influences the Acceptance of Evolutionary Psychology

Several surveys indicate that social psychologists’ political attitudes tend to be predominantly on the left (Haidt, 2011; Inbar & Lammers, 2012; Redding, 2001), but a left-leaning ideology may not fully explain antievolutionary attitudes, because survey research indicates that evolutionary psychologists are equally left-leaning (Tybur, Miller, & Gangestad, 2007). To examine possible sources of distaste for evolutionary explanations, and the relationship between this distaste and political attitudes, we e-mailed individually addressed surveys to all members of the Society of Experimental Social Psychologists (SESP) who were known to be teaching or conducting research (i.e., they had not retired or entered a full-time administrative position) and who were not themselves evolutionary psychologists (see von Hippel & Buss, 2017). Of the 901 e-mails we sent out, we received 335 responses, for a response rate of 37.2%. Of these respondents, 33.4% were female (which is representative of the gender distribution of the society itself), the average age was 51.5 years,

¹ Note that most of these barriers apply to other psychologists as well. We focus this paper on social psychologists because their enterprise is closely aligned with that of evolutionary psychologists (see von Hippel, von Hippel, & Suddendorf, in press), yet they are often highly resistant to an evolutionary approach to human social functioning.

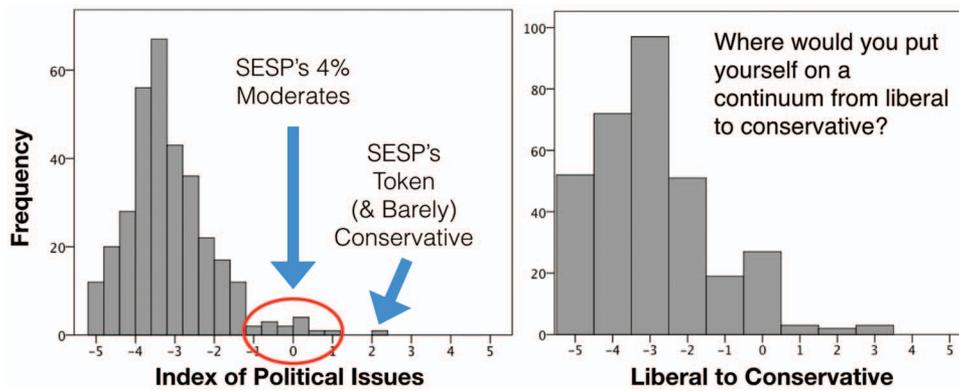


Figure 1. SESP members' responses to questions concerning their political ideology.

and the average time since completing the PhD was 22.8 years. The complete survey and the raw data are available at <https://osf.io/ebvtq/>.

To assess SESP members' ideology, we asked a series of questions concerning their attitudes toward abortion, gun control, Obamacare, school prayer, gay marriage, amnesty for immigrants, jail for drug users, legalized marijuana, and legalized prostitution (an example item: "Do you support a woman's right to get an abortion?").² Responses were given on an 11-point scale that ranged from $-5 =$ *strongly oppose*, $0 =$ *neutral*, $5 =$ *strongly support*. All items were coded such that lower numbers indicate a more politically liberal (i.e., left) response, and the resultant scale had acceptable reliability ($\alpha = .66$). As can be seen in Figure 1, more than 95% of SESP members scored below the midpoint on this scale, and indeed the mean was -3.15 . Consistent with this left-leaning political ideology, 305 people reported having voted for Obama and only four reported voting for Romney. Finally, on a self-report scale that ranged from *very liberal* to *very conservative*, most SESP members rated themselves on the liberal end of the continuum (see Figure 1). Along with prior studies (Haidt, 2011; Inbar & Lammers, 2012; Redding, 2001), these data provide clear evidence that SESP members lean strongly to the left in their politics.

Having established their political orientation, the next goal of the survey was to assess SESP members' attitudes toward evolutionary psychology. To address this issue, we asked respondents three questions. The first question asked them how likely they thought it was that Darwinian evolutionary theory was actually true. The second question asked how likely it was that Darwinian evolutionary theory was true, but that it did not apply to humans. The final question asked about the likelihood that Darwin's ideas applied to the human mind. Responses to these questions were provided on a scale that range from 0% : *definitely false* to 100% : *definitely true*.

As can be seen in Figure 2, SESP members were almost uniform in their endorsement of Darwinian evolution, and almost uniform in their rejection of the idea that humans are an exception to Darwinian principles. Nonetheless, they were highly variable in the degree to which they endorsed the idea that Darwinian logic applies to social psychological phenomena. This pattern of findings raises important questions, as it is unclear why social psychologists would uniformly accept the notion that humans evolved while simultaneously being deeply unsure whether our minds evolved along with our bodies. To address this issue, we asked several other questions that were intended to probe possible root causes of the discomfort with evolutionary psychology that is suggested by Figure 2.

The first set of questions we asked addressed two interrelated sources of potential discomfort with evolutionary psychology. Specifically, perhaps people feel that the notion of an evolved mind is

inconsistent with their religious beliefs, or perhaps the notion of an evolved mind is inconsistent with human specialness. Neither of these issues appeared to be major concerns for SESP members. Most members of SESP were relatively certain that there is no God or higher power, and most members of SESP believed that the same evolutionary principles that guide animal behavior also guide human behavior (see Figure 3). Responses to this latter question might seem striking in the context of their variable beliefs about whether our social attitudes evolved, but perhaps our respondents were envisioning more basic aspects of our mind, such as hunger, thirst, desire for sex, and so forth, when they considered whether we are guided by the same forces as other animals.

The next set of questions addressed two other types of potential discomfort with evolutionary psychology, by asking about the dark side of human nature and about inherent differences between people. Specifically, we asked our respondents whether they thought humans might be inherently violent, and whether some people might be universally considered more attractive than others. Responses to these items provided the first indication of possible sources of discomfort with evolutionary psychology, as both questions revealed substantial variability in beliefs, and even appeared slightly bimodal in their distributions (see Figure 4). These data raise the possibility that SESP members might feel uncomfortable with evolutionary psychology because they dislike the implications regarding the dark side of human nature, and the implications that some people are endowed with traits that are universally perceived as more favorable than others.

The final set of questions addressed issues regarding human sex differences, which seemed likely to be the sort of hot-button issues that might differentiate those who endorse the idea that the mind evolved and those who do not. The first of these questions asked whether sex-differentiated hormones play a major role in attitudes and behavior, the next question asked whether well-known sex differences might be primarily genetic rather than environmental, and the final question asked if it might be more difficult for men than women to remain sexually faithful in long-term romantic relationships.³ Al-

² Note that these items all tap social liberalism/conservatism; the scale was not designed to address attitudes toward economic issues.

³ See <https://osf.io/ebvtq/> for wording of the individual items. Note that some of these items are likely to have engendered greater agreement had they been worded in a manner that suggested a less substantial role for hormones or genetics in human behavior, gender differences, etc. In particular, the item regarding the genetic basis of gender differences might have been written too extremely, given the skew on this item (Figure 5, middle panel) and the fact that it failed to predict independent variance in attitudes toward evolutionary psychology (Table 1).

How likely is it that this finding is actually true?

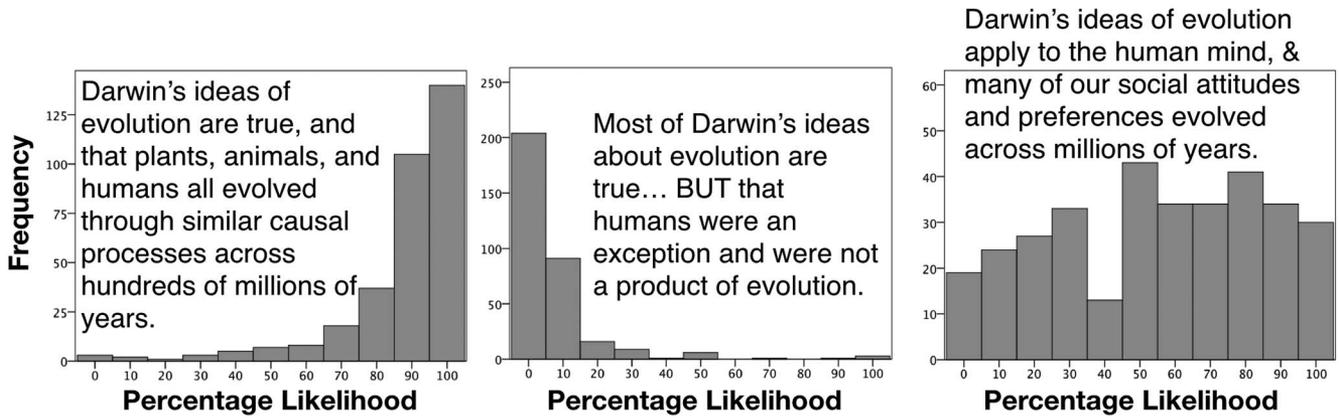


Figure 2. Perceived likelihood that Darwinian evolution is true, that Darwinian evolution is true but does not apply to humans, and that Darwinian evolution applies to social attitudes.

though these items varied in their overall levels of endorsement, once again there was substantial variability in SESP members' responses, and again the distributions showed hints of bimodality (see Figure 5).

To test whether responses to these five "hot button" items might differentiate those who endorse evolutionary psychology from those who do not, in the first stage of a hierarchical regression model we regressed beliefs in evolutionary psychology on beliefs in evolutionary biology. In the second stage of the model we entered these five hot button variables as predictors of beliefs in evolutionary psychology. The goal of this regression model was to predict endorsement of evolutionary psychology controlling for the degree to which people endorsed the principles of evolutionary biology. As can be seen in Table 1, this analysis revealed that three of the five "hot button" variables were significant unique predictors of beliefs in evolutionary psychology (albeit of relatively small effect size). Note also that these hot button items appear to partially mediate the effect of beliefs in Darwinian evolution on beliefs in Darwinian psychology.

The final step in the analysis was to correlate these hot button variables and beliefs in Darwinian evolution and evolutionary psychology with the two indicators of political ideology (presiden-

tial votes had too little variability to be of any use in such an analysis). Although both ideology measures were highly skewed, and thus not ideal measures for assessing associations, the three hot button issues concerned with sex differences were correlated with the self-reported (but not issue-based) indicator of political ideology (*r*s from .178 to .240, *p*s ≤ .001). Beliefs in evolutionary psychology were not correlated with either indicator of ideology. These results suggest a role for ideology in endorsement of evolutionary psychology, but not a direct or strong linear association. Indeed, we (von Hippel & Buss, 2017) found that the association between ideology and endorsement of these hot button items reflected the fact that people on the far left of the spectrum were the only ones who believed that these hot button items were impossible or highly unlikely to be true. Nevertheless, many people on the far left of the political spectrum believed these hot button items were highly likely to be true, suggesting a great deal of heterogeneity in the relationship between left-leaning ideology and beliefs in these issues. The relationship between ideology and scientific beliefs is clearly a complex one that warrants further study.

How likely is it that this finding is actually true?

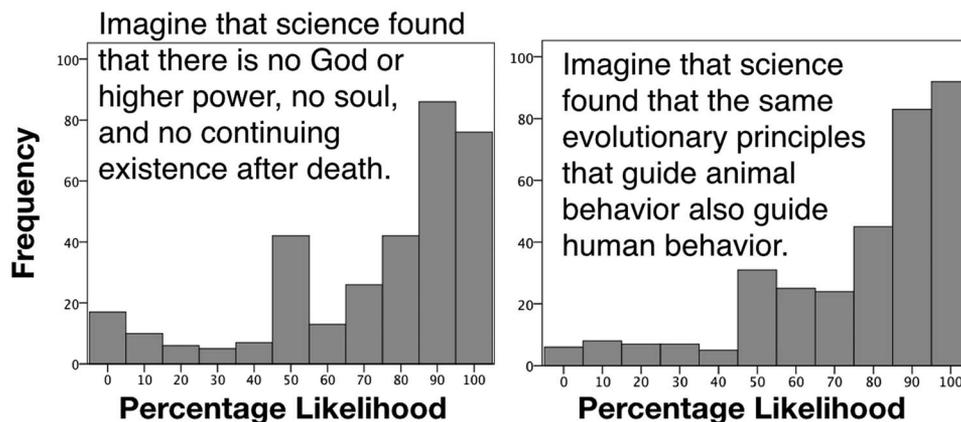


Figure 3. Perceived likelihood that there is no higher power and that the evolutionary principles underlying animal behavior also explain human behavior.

How likely is it that this finding is actually true?

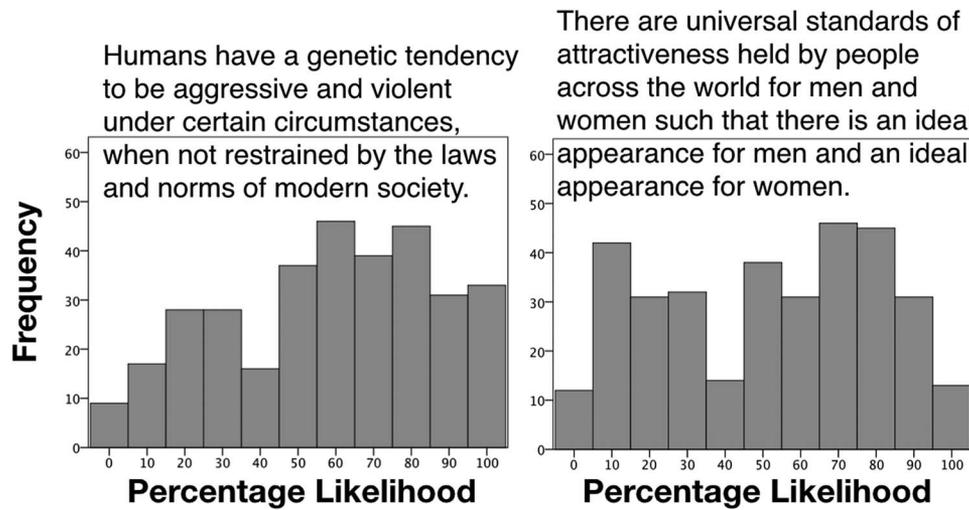


Figure 4. Perceived likelihood that violence is innate and that some humans are universally perceived to be more attractive than others.

The View of Human Nature Conducive to the Dominant Ideology: The Noble Savage and the Blank Slate

We have never quite outgrown the idea that somewhere, there are people living in perfect harmony with nature and one another, and that we might do the same were it not for the corrupting influences of Western culture.

—Melvin Konner (1990)

Few modern social psychologists would explicitly endorse the blank slate and noble savage views of human nature. Nonetheless, these positions are implicit across a wide spectrum of social psychological theories and research. Indeed, the blank slate has been endemic to American psychology for most of the past century. In 1890, William James made a compelling case for evolutionary psychology in his argument that humans had more instincts rather than fewer instincts than other species (James, 1890).

Starting in 1920, however, American psychology made an unfortunate turn away from William James in its embrace of behaviorism. Consider James Watson's famous quote

Give me a dozen healthy infants, well-formed, and my own specified world to bring them up in and I'll guarantee to take any one at random and train him to become any type of specialist I might select—doctor, lawyer, artist, merchant-chief, and, yes, even beggarman and thief, regardless of his talents, penchants, tendencies, abilities, vocations, and race of his ancestors. (Watson, 1924, p. 104)

This approach captured the dominant view of radical environmentalism. B. F. Skinner (1938) extended this trend with his book *The Behavior of Organisms*, in which he outlined the fundamental assumptions of operant conditioning. Humans, rats, and pigeons were assumed to be born with domain-general and equipotential capacities to learn solely by external contingencies of reinforcement.⁴ In short, humans were presumed to come into the world with general capacities to learn from classical and operant conditioning and the entire “content of our character” was built during development solely through content-independent associative learning processes.

According to this view, pigeons and rats were ideal proxies for humans, given that they were easier to study, because the fundamental principles of learning were assumed to be identical across species. Absent entirely were core principles of the adaptationism of Darwin

or James—notions that (a) species come into the world prepared to learn some things more readily than others things; (b) humans have specialized learning mechanisms that operate differently in domains such as food consumption, predator avoidance, kin recognition, and mate selection; or (c) humans have psychological adaptations that function to deal selectively with the many specialized challenges of survival and reproduction.

Although social psychology rejected radical behaviorism by embracing a cognitive orientation to social behavior, it nonetheless imported some of the key assumptions underlying behaviorism: rejection of adaptationism (the concept of “function” was erroneously dismissed as hopelessly teleological and unscientific) along with an embrace of a naïve version of “the power of the situation” and the blank slate model of mind (e.g., Nisbett & Ross, 1980). One famous exemplar illustrates the assumptions within social psychology—the Stanford Prison Study. Stanford undergraduates were randomly assigned to be “prisoners” or “guards” in a simulation of an actual prison situation. The prisoners were issued identical prison garb and referred to by number rather than by name. The guards wore mirrored sunglasses and were charged with keeping order in the prison. In short order, the guards became frighteningly cruel, inflicting increasingly brutal and humiliating treatments on the prisoners. In response, the prisoners became docile, mimicking the behavior of actual prisoners put into these dire circumstances. Zimbardo attributed the “evil” behavior of the guards to what happens when you put inherently “good people in an evil place” (Haney, Banks, & Zimbardo, 1973). A more recent title in the same vein proclaimed “A situationist perspective on evil: Understanding how good people are transformed into perpetrators” (Zimbardo, 2004).

Why has such a deeply flawed study—no control group, an experimenter who suggested to participants how they should behave, and everyone aware of their assigned conditions and the associated expectations—been showcased in virtually every social psychology textbook for the last 45 years (Griggs, 2014)? Undoubtedly the answer to this question lies partially in the drama and memorability of the

⁴ See Seligman (1970) for an early and important argument against this assumption.

How likely is it that this finding is actually true?

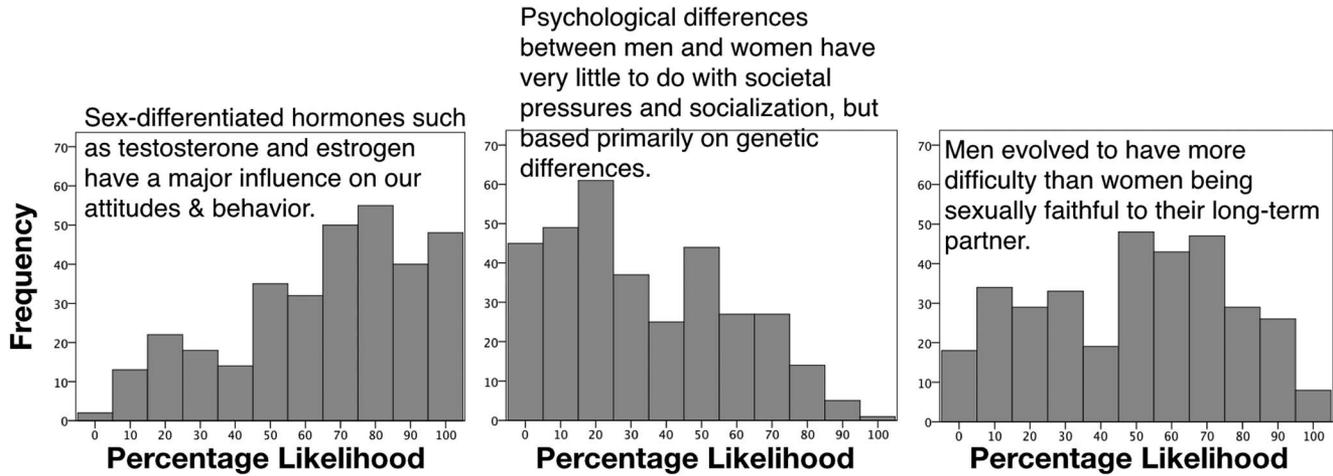


Figure 5. Perceived origins of various sex differences.

findings, but we suspect that part of the answer can be found in the fact that the Stanford Prison Study fits the prevailing ideology in social psychology that situations are the dominant force shaping individual behavior (Jussim, Crawford, Anglin, Stevens, & Duarte, 2016; Krueger & Funder, 2004). The underlying assumptions of inherent human goodness and the blank slate are clear. There are no bad people, only bad situations. The notion that humans could possess evolved psychological mechanisms for both evil and altruism, for both cruelty and kindness, which are selectively activated by predictable situations—key premises of modern evolutionary psychology—was strikingly absent. Just as radical behaviorism assumed that all behavior was produced by external contingencies of reinforcement, social psychologists assumed that all behavior was produced by the power of the situation.

Social Psychologists Reject an Erroneous Caricature of Evolutionary Psychology

Consider these positions: (a) Human behavior is genetically determined. (b) Evolution implies that the environment is causally irrelevant. (c) Evolutionary psychology implicitly assumes that attempts at changing human behavior are doomed to fail. It would probably surprise many social psychologists that the framework of evolutionary psychology explicitly rejects each of these three positions (Buss, 2015; Confer et al., 2010; Lewis, Al-Shawaf, Conroy-Beam, Asao, & Buss, 2017; Tooby & Cosmides, 1992).

Due to their left-leaning ideology, social psychologists often prioritize social justice. This goal is exemplified by the Society for the Psychological Study of Social Issues, whose mission is to, “generate, disseminate, and apply social science knowledge to address the problems of society,” (The Society for the Psychological Study of Social Issues, 2009) and the Social Psychology Network, whose mission is to, “promote peace, social justice, and sustainable living through public education, research, and the advancement of psychology.” (Social Psychology Network, 1996). Many social psychologists spend their career seeking to eliminate inequality, prejudice, bigotry, the tyranny of the powerful, and the abuses heaped on the less fortunate. If evolutionary perspectives imply genetic determinism, environmental irrelevance, and hopeless intractability, then evolutionary psychology would justifiably be perceived as a scientific perspective that could impede these social goals, or at least a position that highlights their hopelessness. But these are precisely the theoretical positions that evolutionary psychology explicitly rejects.

Consider genetic determinism—the notion that genes control behavior with no role for environmental influence. This is an untenable position that no modern scientist, to our knowledge, has ever endorsed. Evolutionary psychology is explicit in formulating an *interactionist framework* (see, e.g., Buss, 2009), but not in the bland scientifically vacuous sense of lip-service to “both genes and environments.” Rather, psychological adaptations evolve precisely to respond to specific recurring environmental challenges and are activated

Table 1
Regression Coefficients Predicting Beliefs in Evolutionary Psychology

| | Model | Unstandardized B | Coefficients Std. error | Standardized coefficients Beta | t | Sig. |
|---|--|------------------|-------------------------|--------------------------------|--------|-------|
| 1 | (Constant) | 7.477 | 7.9 | | 0.946 | 0.345 |
| | Darwinian Evolution actually true %? | 0.553 | 0.088 | 0.336 | 6.269 | <.001 |
| 2 | (Constant) | -12.327 | 7.231 | | -1.705 | 0.089 |
| | Darwinian Evolution actually true %? | 0.302 | 0.082 | 0.184 | 3.676 | <.001 |
| | Genetically Violent actually true %? | 0.147 | 0.058 | 0.138 | 2.539 | 0.012 |
| | Universal Attractiveness actually true %? | 0.208 | 0.06 | 0.201 | 3.454 | 0.001 |
| | Men Less Sexually Faithful actually true %? | 0.046 | 0.065 | 0.042 | 0.708 | 0.48 |
| | Sex Hormones Influence Behavior actually true %? | 0.253 | 0.063 | 0.221 | 3.988 | <.001 |
| | Gender Differences Genetic actually true %? | 0.096 | 0.065 | 0.079 | 1.479 | 0.14 |

Note. Dependent Variable: Darwinian Psychology actually true %?

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How Bad or Good would it be if this were widely reported?

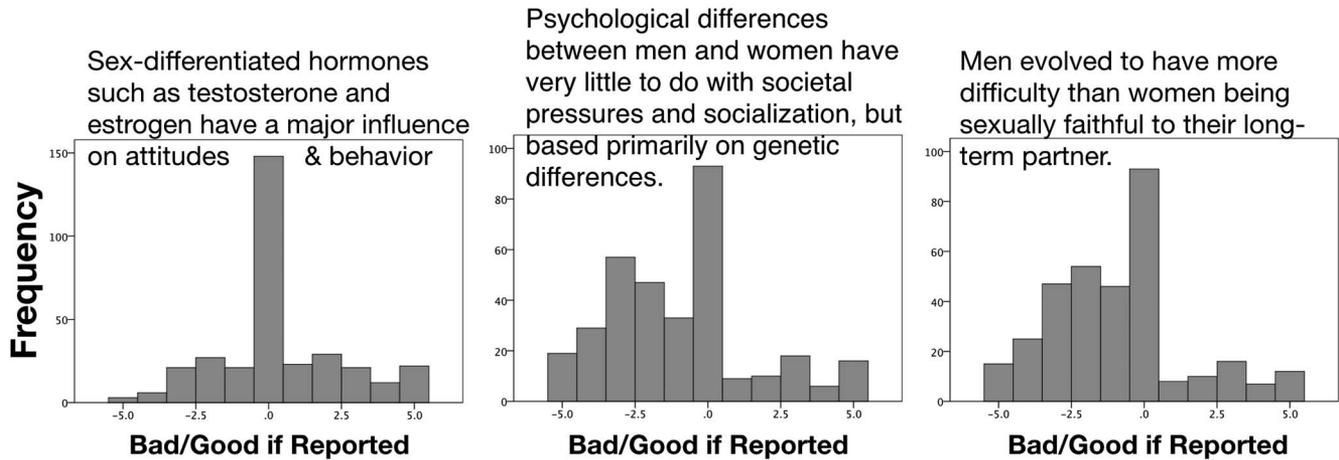


Figure 6. Consequences of reporting on potential origins of various sex differences.

only when those environmental events, or key cues to them, occur. To use a physiological example, callus-producing adaptations evolved to protect the anatomical and physiological structures beneath the skin. They are activated when an environment imposes repeated friction, and calluses grow precisely at the location of that repeated friction. The form of the interaction is tightly specified: No environmental friction, no callus; no genetic adaptations for producing calluses, no calluses; manifest calluses are thus products of the selective environment that created the adaptations and the current situation of environmental friction that activates those adaptations in specific skin locations.

Precisely the same logic applies to psychological adaptations. For example, the emotion of disgust has been hypothesized to solve specific adaptive problems, such as avoiding pathogens (e.g., from contaminated food) and avoiding sexually transmitted infections (e.g., from a potential sex partner with sores or lesions around the lips or genital region). Adaptations for pathogen disgust and sexual disgust are activated only by a delimited set of environmental inputs (Al-Shawaf, Lewis, & Buss, 2017; Tybur, Lieberman, & Griskevicius, 2009). The formulation of the interaction is precise, requiring identification of the adaptive problem emanating from the environment (e.g., threat of pathogens), the design features of psychological adaptations that evolved to deal with these environmental challenges (e.g., the emotion of disgust and its behavioral sequelae such as recoiling or avoidance), and the precise circumstances in which the adaptations are selectively activated.

These examples highlight several points. First, evolutionary psychology rejects the notion of genetic determinism. Second, it embraces central roles for environments and situations. Indeed, selective environments are responsible for creating adaptations over evolutionary time. Situations, such as repeated friction or cues to pathogen presence activate those adaptations during each person's life. And third, evolutionary psychology carries no notions of intractability nor pessimism regarding change. Just as we can create environments that are relatively friction-free and thereby eliminate calluses, we can create environments that are relatively free of certain pathogens. By extension, adaptations for aggression and violence are similarly context-evoked and context-suppressed, as illustrated by their dramatic and predictable declines over the past decades and centuries (Pinker, 2011). The fact that modern Norwegians are among the least violent people on earth, yet descended from exceptionally violent

Vikings, provides a vivid illustration (Pinker, 2011; Raffield, Price, & Collard, 2017).

Thus, evolutionary psychology can provide guidance for creating environments that decrease prejudice, reduce inequality, and curtail the abuses of the powerful. Indeed, knowledge of our evolved psychological adaptations and the circumstances in which they are selectively activated and de-activated facilitates our ability to create justice via social change. Knowledge of our evolved psychology, far from impeding social change, provides powerful tools for creating social justice. Consequently, rejecting those tools based on false caricatures of evolutionary psychology undermines efforts to ameliorate social injustice.

Psychologists Reject Empirical Findings They Believe to Contravene Their Dominant Ideology

Some social psychologists reject empirical findings they believe to contravene their dominant ideology and their quest for social justice. We highlight two here—evolved gender differences and nonarbitrary standards of beauty (see Figures 3 and 4)—that are hot button issues, but there are others, such as adaptations for out-group hostility and adaptations for step-parents to discriminate against stepchildren.

Rejection of the Possibility of Evolved Gender Differences

A key social justice issue among many left-leaning psychologists is equality between the sexes (von Hippel & Buss, 2017). These psychologists often worry that empirical documentation of evolved gender differences will be exploited to justify unequal treatment of women. Although this concern applies most notably to possible evolved differences in cognitive abilities (e.g., spatial rotation ability), it appears to be the case that the concern has generalized to rejection of other evolved gender differences.

As an initial test of this possibility, we asked members of SESP to reflect on whether the consequences would be bad or good if the different findings in the survey were widely reported. Consider their responses to the questions regarding the potential biological origins of various sex differences (depicted in Figure 5). As can be seen in Figure 6, a substantial proportion of SESP members thought the consequences would be negative if it were widely reported that sex differences are primarily genetic or that it is more difficult for men

than women to remain sexually faithful. We are unsure why this pattern did not emerge on responses to the question regarding whether sex-differentiated hormones play a major role in attitudes and behavior. Although there is more than one way to interpret these findings, they raise the possibility that SESP members are concerned that knowledge of biological origins of sex differences might be exploited to justify unequal treatment of women.

As can be seen in Table 1, endorsement of the possibility that “sex-differentiated hormones such as testosterone and estrogen have a major influence on our attitudes and behavior” predicts residual variance in beliefs in evolutionary psychology after controlling for beliefs in Darwinian evolution. Endorsement of this possibility also correlates with self-reported liberalism to conservatism at $r = .178$, $p = .001$. Although these relationships are small (possibly artifactually attenuated due to range restriction), they again raise the possibility that an important role for sex-differentiated hormones in social behavior might be anathema for some social psychologists.

There are numerous examples in the literature that document the distaste among psychologists for a possible role for sex hormones, but perhaps the most notable recent example is Fine’s (2017) book, *Testosterone Rex: Unmaking the Myths of Our Gendered Minds*. *Testosterone Rex* received glowing reviews from journalists around the globe, although highly negative reviews from those with expertise in evolutionary biology (e.g., Coyne, 2017; King, 2017). Consider this excerpt from a review in *The Guardian* (Ditum, 2017):

“Testosterone Rex” . . . is the name (Fine) gives to “that familiar, plausible, pervasive and powerful story of sex and society,” which holds that inequality of the sexes is natural, not cultural. After all, testosterone makes men tall, hairy and deep-voiced; it makes a certain superficial sense to imagine it also produces other characteristics we think of as masculine, such as leadership, violence and horniness. . . . This is an explanation that’s really a justification. If . . . hormones make the man or woman, and we are what we secrete, then efforts to end male dominance would be futile at best and possibly downright harmful. But this, of course, assumes that “Testosterone Rex” is fact when, as Fine compellingly argues, it’s actually fiction.

As is all too apparent from this review, misunderstandings of evolutionary psychology require a distortion of the facts to achieve political goals of equality. Space concerns preclude a thorough discussion of Fine’s book, but one notable example should suffice. In the book, Fine takes aim at the hypothesis that testosterone leads people to seek sexual variety. The possibility that testosterone is part of an adaptation that creates an urge for sexual variety is clearly politically problematic for a variety of reasons, and thus is widely perceived by feminist scholars to be yet another case of evolutionary theorists excusing men for behaving badly (because men have a great deal more circulating testosterone than women). Thus, the testosterone/sexual variety link is a notable target in Fine’s book, and indeed elsewhere in the academic literature.

Nevertheless, a veritable mountain of evidence reveals sex differences in the desire for sexual variety (Schmitt, 2017). Examples include number of different sexual partners desired, time elapsed before seeking sexual intercourse, and patterns of pornography consumption. Examples also include a host of behavioral findings, such as patronage of infidelity websites, responses to sexual invitations from strangers, motives for extramarital affairs, and perpetrators of sexual harassment. These gender differences are universal across cultures and large in magnitude (Baumeister & Vohs, 2004; Buss & Schmitt, 1993, 2011; Schmitt et al., 2003), with d -statistics typically large ($d = .80$ or greater), dwarfing the typical effect size estimates in social psychology. Despite this mountain of evidence, Fine (2017) and others have explicitly rejected the findings because they are perceived

to interfere with the quest for gender equality (e.g., see Rudman, 2017).

It is obviously problematic to reject scientific findings based on whether they are perceived to comport with, or conflict with, a political ideology or a goal of gender equality. There exists overwhelming evidence for evolved sex differences in human psychology. The evidence is as strong as any within the social sciences. Rejection based on the misperception that they interfere with ideological commitments degrades the science and delays scientific progress (Eagly, 2016). Ironically, it also may interfere with the goal of achieving gender equality; to the degree that equality of the sexes is predicated on rejection of biological sex differences, evidence for such differences will undermine achievement of this goal. As Pinker (2003) notes,

equality is not the empirical claim that all groups of humans are interchangeable; it is the moral principle that individuals should not be judged or constrained by the average properties of their group. . . . If we recognize this principle, no one has to spin myths about the indistinguishability of the sexes to justify equality. Nor should anyone invoke sex differences to justify discriminatory policies. (p. 340)

Adaptations to Treat People Unequally

Humans have adaptations to treat potentially edible objects and potential habitats as having different value. Calorically rich foods, such as ripe fruits or fat-rich nuts, tend to be valued more than potential foods lacking these qualities or containing cues to toxicity. Potential habitats are differentially valued based on their affordances for *prospect* (e.g., water and game) and *refuge* (e.g., protection from hostile environments or aggressive humans; Orians & Heerwagen, 1992). From an evolutionary perspective, it would be surprising if humans did not also have adaptations for treating other people as having different value (e.g., Sugiyama, 2005). Indeed, humans have difference-detecting adaptations, including those to discern differences in kin value, dyadic alliance value, and coalitional value (Buss, 2011).

All sexually reproducing species also have adaptations to treat members of their own species as having different mate value. Some individuals are more attractive than others—they give off cues to greater health, fewer communicable diseases, higher resource acquisition potential, greater fertility, better parenting abilities, or superior long-term partner skills. The hypothesis that humans have evolved standards of attractiveness, viewing some more positively than others, is apparently anathema to some left-leaning psychologists (see Figure 3). It should not be. The equality of individuals in the sense of equal rights, equal workplace opportunities, and equality of treatment under the law, is a moral principle. It does not and should not rest on the empirical claim that all individuals have equal talents, equal levels of attractiveness, or equal mate values.

We suggest that the concern about equality of treatment is justified, but the rejection of empirical findings of evolved value-detecting adaptations is misplaced. Acknowledging the empirical evidence is the first step in creating greater equality in the moral sense. Consider one example. There is compelling evidence that humans have evolved adaptations for evaluating others based on attractiveness, and that these standards are closely linked to statistically reliable cues to fertility and other fitness-relevant properties. In the modern environment of the workplace, however, these adaptations can misfire. An individual high in mate value is not likely to be better at technological innovation, computer programming, managing organizations, treating ill patients, instructing students, or a host of other skills needed in the modern workforce. Hiring individuals based on qualities irrelevant to job performance, such as physical attractiveness, is a social injustice.

But denying the well-established finding that humans have evolved standards of beauty is misguided, however well-intentioned. Acknowledging that humans have evolved biases to treat others as differing in mate value, and that these adaptations can misfire in the modern workplace, provides a better set of tools for achieving social equality. This scientific knowledge pinpoints specific targets of potential intervention. Denial of the empirical reality undermines effective efforts at intervention (Eagly, 2016).

Social Psychological Adaptations That Actively Impede Understanding of Evolutionary Psychology: Coalitional Psychology

Humans evolved in small groups, often in the context of hostilities and ongoing aggression against other groups. There is compelling evidence that humans have adaptations to form coalitions, join coalitions, reinforce solidarity of coalition members, punish coalitional free-riders and coalitional violators, signal their coalitional loyalty, and recruit others to increase the size of their coalitions (e.g., Tooby & Cosmides, 2010; Tooby, Cosmides, & Price, 2006). Coalitional adaptations are hallmarks of our species, they solve complex problems of coordination, and they helped solve a host of problems related to survival (e.g., protection from large predators) and reproduction (e.g., acquisition of potential mates).

Transplanted into the modern world of researchers whose job is to furnish a theoretically sound and empirically based science of the human mind, however, we propose that these adaptations actively impede rather than facilitate. Coalitional adaptations lead social scientists to signal ideological commitments to their presumptive coalitions rather than to ferret out the most compelling scientific theories and empirical findings. Social scientists advancing conflicting theoretical commitments, particularly if they are perceived or misperceived as antithetical to each others' ideological commitments (e.g., those of evolutionary psychology), are seen as coalitional rivals and enemies. Of course, this is a two-way street, and evolutionary psychologists are just as likely to form coalitions and regard "blank slaters" as competitors or enemies. Nonetheless, the end result is that our evolved psychology actively interferences with the scientific quest to understand our evolved psychology.

Conclusions

We have argued that dispassionate scientific inquiry is an odd and perhaps unnatural human endeavor. Ideological commitments have long impeded scientific progress. Nearly 400 years ago, Galileo's astronomical theories, including the assertion that the earth rotated around the sun, were regarded as heretical to church dogma, and he was forced to recant them to save his life. Darwin's theory of natural selection drew outrage because it contravened ideological commitments to an Intelligent Designer—the biologist Thomas Huxley debated the Bishop Samuel Wilberforce on evolution at Oxford less than a year after the publication of Darwin's (1859) treatise on the origin of species, and those debates continue to this day. When it comes to psychology, social scientists encounter particularly burdensome challenges because they are placed in the unusual position of studying a species of which they are themselves members.

Two sets of challenges are exacerbated in the field of social psychology. The first is ideological—the field consists almost exclusively of individuals occupying the left/liberal side of the political spectrum. If social psychologists were capable of walling off their political orientation so that it did not impede scientific inquiry, then in principle it would not be a problem. Presumably the scientific inquiry

into physical chemistry would not be much affected by the politics of its scientific practitioners.

The same cannot be said of scientists devoted to understanding how the human social mind works. The political commitments often demanded by the ideology of psychologists have led to pronounced theoretical biases, such as the blank slate view of the human mind combined with an extreme form of situationism that ignores or denies psychological adaptations populating that mind. These biases, in turn, can lead to the unfortunate rejection of theories and empirical findings believed, however erroneously, to interfere with left-leaning ideological commitments. Unfortunately, many social psychologists appear to believe that evolutionary psychology interferes with those ideological commitments. On the other hand, the fact that a substantial minority of social psychologists appear to accept evolutionary evidence for adaptations that produce violence or gender differences provides grounds for optimism.

We have argued that the caricature of evolutionary psychology as a position of genetic determinism and environmental impotence does not comport with the actuality of evolutionary psychology. The reasons for this lack of understanding are multiple, but a core one is the lack of proper training in the evolutionary sciences. Not a single degree-granting institution in the United States, to our knowledge, requires even a single course in evolutionary biology as part of a degree in psychology—an astonishing educational gap that disconnects psychology from the rest of the life sciences. Consequently, most psychologists acquire their knowledge from secondary sources in psychology, including textbooks, many of which contain numerous errors and mischaracterizations. A review of 10 social psychology textbooks, for example, found at least one error of mischaracterization in each, with the typical number being two to three factual errors about inclusive fitness theory alone (Park, 2007). Others have documented widespread and persistent misconceptions about the logic of evolutionary psychology, despite repeated publications devoted to correcting these misconceptions (Confer et al., 2010; Lewis et al., 2017). Indeed, in response to our survey of SESP members, we received a series of questions that were framed as an attack on evolutionary psychology, but that suggested a fundamental (and all too common) lack of understanding of even basic evolutionary principles (see Table 2; von Hippel & Buss, 2017).

We have argued that a proper understanding of the logic of evolutionary psychology does not carry with it the highly feared consequences for social justice envisioned by many social psychologists. It does not entail genetic determinism, environmental impotence, or social intractability. Rather, evolutionary psychology entails the opposite, provides a cogent form of interactionism, a theoretically informed perspective on situationism, and the potential for greater knowledge to intervene to correct social problems when such intervention is deemed desirable. Moreover, evolutionary psychology is a scientific discipline with no political agenda, despite many attempts to denigrate it by falsely linking it to odious political movements of the past such as Nazi Eugenics.

A second key challenge lies with the nature of human evolved psychology itself. We have highlighted one such problem—the notion that humans have evolved to be intensely coalitional. The frequent "virtue signaling" of social psychologists in presumptively scientific publications is a key manifestation of our evolved coalitional psychology. We broadcast our commitments to social justice, to opposing discrimination and prejudice, and to eliminating sexism. Part of this virtue signaling entails rejecting a caricature of evolutionary psychology that no scientist actually holds.

The evolved coalitional psychology of scientists is not the only evolved psychological impediment to developing a proper science of the social mind. Other plausible candidates include the notion that humans possess adaptations to persuade rather than seek the truth (Mercier & Sperber, 2017), along with evolved status-striving adaptations that cause established scientists to reject theories and findings that threaten to lower their scientific stature. In this important sense, our evolved social psychological adaptations actively interfere with the development a proper science of the human mind.

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