EFFECTS OF EVALUATION:
AN EXAMPLE OF ROBUST "SOCIAL" PRIMING

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Evaluation serves a fundamental role in human life, allowing us to safely and successfully interact with our world—much of which is in some way social. We review the vast literature in social psychology on the unintentional impact of evaluation on our mental processing, and locate these effects within longstanding and emerging research traditions. We argue that poorly specified critiques of "social" priming threaten to unfairly ostracize robust findings, stunt exciting new investigations into when and how unintentional influences occur (which we review), and are inconsistent with work in cognitive psychology and modern theory on the nature of information processing in the brain. Finally, we argue that full-hearted endorsement of the evaluative priming that we discuss likely cannot peacefully coexist with strong skepticism of all forms of behavior priming, sketching an argument for why the robustness of the former likely compels the existence of some amount of the latter.

Priming research in social psychology has made its way into the limelight in the last decade, its discoveries featured in mainstream as well as nontraditional media outlets. Amazingly, friends and family outside of academia may have even heard of social psychological research. This is largely seen as a positive development (cf., Ledgerwood & Sherman, 2012). In the United States, people's federal tax dollars are being used to better understand human behavior, and the findings are being communicated to the public in increasingly effective ways.

At the same time, over the last couple of years, the headlining star of social psychological research is having a hard time of it. Various reporters and even psychologists have made statements lately about a string of non-replications and the resulting potential demise of priming, and even social psychology itself (e.g., see Bartlett, 2012; Bower, 2012; Kahneman, 2012; Shanks, 2013; Yong, 2012, 2013).

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Does this crisis portend the end of priming research? Has social psychology gone astray? Should we ever trust psychological research?

In the current article, we address this controversy by making three theoretical arguments. The first is that the conceptual boundary of the area of "priming" is fuzzy. The difference between robust, established, and fairly well understood (and seemingly accepted) priming in cognitive psychology (e.g., semantic, lexical, associative) versus the "social priming" that has been targeted lately is theoretically unspecified. Second, in an attempt to demonstrate how the robustness of a kind of social priming is very similar to that of the priming found in the cognitive psychology literature, we present and review the evidence for evaluative priming. We show that priming that emerges from the evaluation of relatively abstract social stimuli is reliable and has been replicated many thousands of times. Finally, our third argument is that a meaningful distinction between semantic (and other kinds of) priming in cognitive psychology and "behavioral priming" is similarly underspecified. We consider the theoretical support for the possibility of behavioral priming.

DEFINITIONS MATTER

In the recent publicity frenzy surrounding priming, people have referred to the area of problematic research as *priming* (Yong, 2012), *social priming* (Kahneman, 2012), *goal priming* (Pashler, Coburn, & Harris, 2012), or *behavioral priming* (Doyen, Klein, Pichon, & Cleeremans, 2012). Because this area of research is reportedly in demise and endangering the enterprise of social psychology, we should know what area of research we are talking about. It turns out, however, that even though some of these terms reference different bodies of empirical findings and theory, non-superficial distinctions between them are hard to identify. As such, it is difficult to determine whether critiques are targeting specific findings or underlying mechanisms that probably apply broadly in various priming domains and are quite well established.

The term *priming* originally referred to how the processing of a stimulus makes the person more "perceptually ready" (Bruner, 1957) to recognize or respond to that *same* stimulus some time after. For example, as you read the word **ridiculous** now, versus do not, you will be able to read the same word faster later in this paper. The consequence of a prolonged activation is that if the same stimulus is seen again, the mind is already geared up to recognize/process it, allowing us to learn connections among stimuli (e.g., Hebb, 1949; Lashley, 1951; see also Bargh, 2006). The evidence for this kind of *repetition* priming is solid (e.g., Tulving & Schacter, 1990). Exposure to a given stimulus *also* affects the processing of subsequent stimuli that are related but not identical. So, reading **ridiculous** will also allow you to later recognize **lunacy** faster, for example. Stimuli that are semantically, lexically, or perceptually similar to the initial prime will be more readily processed and responded to. Here too, the evidence across decades of research and areas of psychology is robust (e.g., for reviews, see Förster, Liberman, & Friedman, 2007; McNamara, 2005; Neely, 1991; Ratcliff & McKoon, 1997).

We do not think recent criticisms are leveled against any of these types of priming, but the use of the term *priming* obscures the true target of the criticism and unfairly characterizes robust findings. In particular for those outside of the field,

the conflation threatens to fuel warrantless skepticism of work foundational to cognitive science.

Instead, the criticism is aimed at "social" or "behavioral" or "goal" priming. But what do these terms mean? Starting with the adjective of social, we argue that it is problematic to draw a definitive line between social versus non-social concepts. More precisely, it is difficult to know what concepts would qualify as clearly non-social. For example, all of language itself is embedded within a social context where social others are real, imagined, or hypothesized (e.g., Clark, 1996). We are not aware of any research that suggests a difference *in kind* between social and non-social priming (even though these topics fall into different areas within psychology), and thus we assume that the term *social priming* is probably some fusion of social psychology with the broad term of *priming*.

We suspect that what some people mean when they talk about social priming is *behavioral* or *goal* priming. Behavioral priming occurs when the incidental processing of a cue changes behavior (e.g., Bargh, Chen, & Burrows, 1996; Dijksterhuis & van Knippenberg, 1998), whereas goal priming occurs when exposure to some cue shifts one's goal-pursuit (which is usually measured via behavior; see Bargh, 1990). For the purposes of this paper, we assume that goal priming is just one type of behavior priming (though with meaningful differences; see Förster et al., 2007). But, what kind of dependent measures qualify as behavior, exactly? This is a famously difficult question, with debate about whether completing a self-report survey or pressing a key on a computer, for example, qualifies as behavior (e.g., Baumeister, Vohs, & Funder, 2007). The studies that have been mentioned in articles or blogs all involve behavior at a relatively macro level of description, where behavior is coded in terms of personality traits (e.g., as more or less aggressive, or social). So, perhaps behavior that is relatively abstract is at the center of the scrutiny, but the boundaries of what qualifies behavior as sufficiently abstract or macro to meet this definition are not defined by critics.

Another component of priming definitions that seems relevant to recent controversy is intentionality. In cognitive psychology, priming is sometimes assumed to emerge even when the person does not (and cannot) explicitly recall the prime (Tulving & Schacter, 1990). In somewhat of a contrast, in social psychology, priming usually refers to the *unintentional* influence of some prime on some target, even if the person can explicitly remember the prime itself (see Greenwald & Banaji, 1995). Note that an assumption of a lack of intention refers to a characteristic of the process of how the prime influences the target, and such an assumption is not strictly needed for the basic phenomenon of a prime affecting the processing of a target. And yet, almost all of the priming work in social psychology assumes, and tests, that the influence of the prime is unintentional (e.g., see Bargh & Ferguson, 2000). This may be due to the long history of interest in social psychology in whether people act in "knowing" versus unknowing ways (e.g., Bargh & Chartrand, 1999; Nisbett & Wilson, 1977; Wilson, 2002), and thus there has been great emphasis on whether people *realize* that a prime affected their judgment, attitude, or behavior. However, there is great variability in social psychological research in the way in which intentionality is conceptualized and measured (Ferguson & Cone, 2013; Uhlmann, Pizarro, & Bloom, 2008), and it remains unclear what aspects of intentionality are implicated in the priming research under scrutiny.

We think the ambiguity surrounding the definitional terms is a serious issue that almost completely prohibits any clear discussion of the problems, because it

precludes inducing the commonalities among the examples. But, in the remainder of this article, we put these definitional issues aside. Given that there appears to be a solid foundation for semantic priming, we present and review a type of semantic priming that could easily be deemed "social," both in terms of being a topic studied almost exclusively by social psychologists and also involving stimuli that might often be deemed social-like (e.g., social groups). In this way, we present one example of a type of social priming that is robust and reliable.

EFFECTS OF EVALUATION

In the attitudes literature, *evaluative priming* usually refers to when the evaluation of some stimulus unintentionally influences subsequent processing, such as the evaluation of another stimulus (e.g., see Herring et al., 2013). Evaluative priming can be thought of as a type of semantic priming (Osgood, Suci, & Tannenbaum, 1957). The first critical issue to note is that researchers in this area take for granted that evaluative priming *occurs*, and thus many demonstrations of it take place in the course of examining other questions. For example, many researchers are interested in whether evaluation can proceed unintentionally, and to test this they employ evaluative priming paradigms. Thus, they assume that if a stimulus is evaluated, then the evaluative information will (unintentionally) influence the processing of a subsequently encountered stimulus.

For example, Fazio and colleagues were the first to demonstrate an evaluative priming effect in the attitudes literature (e.g., Fazio, Sanbonmatsu, Powell, & Kardes, 1986). They were trying to test whether attitudes (positivity versus negativity) toward stimuli are activated upon the mere presentation of those stimuli, without the perceiver's intent to evaluate those stimuli (see also Bargh, Chaiken, Govender, & Pratto, 1992). To test this, they developed an evaluative priming task (EPT) similar to semantic priming tasks (Meyer & Schvaneveldt, 1971) as well as response conflict tasks (Eriksen & Eriksen, 1974; Rosenbaum & Kornblum, 1982; Stroop, 1935). In brief, pairs of stimuli (primes and evaluative targets) are presented sequentially on a computer monitor (for more details, see Wentura & Degner, 2010). The prime is typically presented briefly (300 ms) and followed by the target, which must be categorized quickly as positive or negative. The usual and robust EPT finding is that people are faster to respond to targets when the targets and primes match versus mismatch in valence (see Herring et al., 2013, for a meta-analysis). This shows that upon exposure to some stimulus, whatever is activated then unintentionally interferes with the processing of subsequent target stimuli, along evaluative dimensions.

The Affective Misattribution Procedure (AMP; Payne, Cheng, Govorun, & Stewart, 2005) is another type of sequential priming paradigm. After the brief presentation of a prime stimulus, an ideograph appears that participants have to explicitly evaluate as more or less pleasant than average. When primes are stimuli that are normatively evaluated (explicitly) as positive (vs. negative), participants are likely to evaluate the (unfamiliar) ideographs as more (vs. less) pleasant. Just as with the EPT, the theoretical assumption is that the unintentional evaluation of the prime stimuli triggers information that then interferes with the explicit evaluation of the target stimuli. Although work is ongoing concerning the degree to which priming on the AMP reflects relatively "cold," semantic evaluative knowledge or relatively

"hot" affective feelings (Blaison, Imhoff, Hühnel, Hess, & Banse, 2012; Gawronski & Ye, 2013), it seems reasonably clear (to us, at this point) that priming occurs regardless of intention to avoid this influence (Payne et al., 2005; Payne, Burkley, & Stokes, 2008; Payne et al., 2013; cf. Bar-Anan & Nosek, 2012).

Another option to study unintentional evaluation is the Implicit Association Test (IAT; Greenwald, McGhee, & Schwartz, 1998). Instead of being a sequential priming paradigm, participants have to categorize each of a series of stimuli into one of 4 potential categories. Two of the categories are "good" and "bad" and the other two categories represent the stimulus of interest (e.g., racial groups). The trick is that participants have to use only 2 response keys for these 4 categories, so the categories are combined in different ways. The main assessment is relative, in terms of whether it is easier for someone to combine (via using the same response key) good with White (and bad with Black) compared with the reverse, for example. Some have argued that the IAT can be interpreted as a measure of evaluative priming (see De Houwer, 2001, 2003; De Houwer, Teige-Mocigemba, Spruyt, & Moors, 2009) and we agree. Even though participants are not instructed to categorize Black or White faces (for instance) as good or bad, evaluative information about them is nevertheless activated in memory as soon as those stimuli are processed. This activates the response of pressing the key that has become associated with that evaluation through the IAT task. And, this response may be compatible or incompatible with the correct response (depending on the category assignments of the response keys). When the response triggered by an evaluation conflicts with the correct response, this presents a response conflict, which slows the person down. Under this conception, IAT effects illustrate that unintentional evaluations of stimuli occur and then prime congruent evaluative responses, and thus qualify as evidence for evaluative priming. Other mechanisms also likely contribute to IAT effects, such as task switching (e.g., Klauer & Mierke, 2005), salience asymmetries (e.g., Rothermund & Wentura, 2004), and potentially strategic recoding (e.g., Mierke & Klauer, 2003; Wentura & Rothermund, 2007; see De Houwer et al., 2009), and these may or may not be consistent with an evaluative priming interpretation.

UNINTENTIONAL PRIME EVALUATION VERSUS INFLUENCE

All three of the most commonly used implicit attitude measures, then, are designed with the assumption that if respondents evaluate the prime stimuli, then priming will emerge. This in and of itself speaks to the presumed strength of evaluative priming. Rather than this area of work primarily being about whether evaluative priming emerges once the prime has been evaluated, a considerable amount of it focuses on whether the *evaluation of the prime* is unintentional (for reviews, see Gawronski & Payne, 2010; Herring et al., 2013; Petty, Fazio, & Briñol, 2009). As such, this area of research demonstrates that evaluative priming can be a useful tool for gathering evidence of unintentional evaluations by looking for the *effects* of those evaluations on evaluating subsequent stimuli (EPT and AMP) or categorizing the same stimulus on a non-evaluative dimension (IAT).

And yet, note that whether or not the prime stimuli are evaluated intentionally is conceptually orthogonal to the question of whether priming, in our sense of *unintentional influence*, occurs. From our definition, evaluative priming occurs any time an evaluation has an unintended effect on subsequent processing, regardless

of whether that initial evaluation was itself intentional or unintentional. If the intentional nature of the prime *evaluation* is orthogonal to the intentional nature of the prime *influence*, then why are we reviewing research on unintentional prime evaluation in order to demonstrate unintentional prime influence? Even though the two are conceptually orthogonal, they are practically related. Researchers interested in studying unintentional evaluations have to use methods in which participants do not realize they are evaluating stimuli. The best way to do that is to use a paradigm where the influence of that evaluation is also not intentional. This way, it is possible to gather evidence of evaluation indirectly. Thus, evaluative priming paradigms provide direct evidence of evaluative priming, and indirect evidence of prime evaluation. But how solid is the evidence that the priming in these paradigms is unintentional?

TASK PARAMETERS FOR UNINTENTIONAL INFLUENCE

Timing. The evaluative priming paradigm developed by Fazio and colleagues was designed specifically to minimize any intentional influence of the primes on the targets. The primes and targets are presented so close together in time (and space) that people are assumed to be unlikely to be able to strategically modify their responses to the target according to their responses to the prime (Neely, 1977). The stimulus onset asynchrony (SOA) used in most EPT work is assumed to effectively guard against an intentional influence, though recent work suggests that participants can control their responses when given clear instructions and response deadlines (e.g., Teige-Mocigemba & Klauer, 2013; see also Teige-Mocigemba & Klauer, 2008; cf. Degner, 2009).

Similarly, in the AMP, the prime and target stimuli are presented so close together that people are assumed to be unable to use their reaction to the prime to influence their reaction to the target. Recent work shows that when the SOA is increased to 1000 ms (Hofmann, van Koningsbruggen, Stroebe, Ramanathan, & Aarts, 2010), the nature of the evaluative priming changes. Specifically, with this kind of longer duration, the primes are still significantly influencing the targets (and thus this could be considered priming without the assumption of intentionality), but in a different way than when the SOA is 100 ms. It is not clear whether there is more intentionality in this kind of SOA condition.

The IAT does not test the average influence of a prime on an immediately subsequently presented target across trials (like in the EPT and AMP). Instead, it measures the average interference across trials in response mapping. But, timing here is still important. Participants are asked to categorize the target stimuli as quickly as possible, and are sometimes given strict response deadlines. Imposing fast responding undoubtedly increases the response conflict when the stimulus (e.g., a flower) is assigned to the same key as the incongruent evaluation (i.e., bad). Presumably, this also increases the tendency to evaluate such stimuli even when it is not germane to the categorization. The EPT and the AMP also require respondents to respond as quickly as possible, in order to decrease controlled processing of target stimuli.

Instructions. Implicit attitude measures are also typically described in such a way as to minimize any inferred relation between the primes and targets. In the EPT, instructions usually consist of asking participants to ignore the primes altogether or

to just focus on responding to the targets, which minimizes the likelihood that they would try to use their response from the prime to react to the target. However, we do not know of any systematic attempt to analyze the differences among results, if any, according to the degree to which the primes are attended. Thus, this strategy seems designed to minimize influence, but we do not know whether it does.

A different strategy is used in the AMP. Here, participants are actually told that the primes might influence their responses to the ideographs and are told to try to prevent that from happening (see Payne et al., 2005). Thus, any priming effect that emerges is unintentional, as long as we believe that participants were paying attention and trying to follow instructions. Bar-Anan and Nosek (2012) recently questioned this assumption, claiming that effects on the AMP may be driven by a small subset of participants explicitly evaluating the primes (going against the instructions). Supporting this, they found that participants who were more likely to agree that they had done so showed the strongest effects on the AMP. Payne and colleagues (2013), however, found that this might instead reflect post-hoc rationalizations on the part of participants who had some sense of being influenced by the primes, and that on a trial-by-trial basis participants did not tend to think that their judgments of the ideographs were meaningfully affected by the primes (even though analysis of the data revealed reliable priming).

In the IAT, participants are simply told of the two different categorization tasks. Some work suggests that even minimal changes in instruction can produce differences in IAT scores by encouraging participants to plan strategies for altering their scores (especially if they have prior IAT experience; Fiedler & Bluemke, 2005). The possibility of respondents trying to intentionally control the interference from response mapping seems potentially bigger with the IAT (than with the EPT and AMP), such as through strategic recoding (e.g., Wentura & Rothermund, 2007; see also Payne, 2005). However, evidence suggests that IAT effects still emerge when features of the task discourage strategies like strategic recoding (e.g., De Houwer, 2001).

Despite the above data, we suggest that when considering their utility in exploring the possibility of unintended evaluation and unintended priming, the pertinent question is not *can these measures be controlled under any circumstances*, but rather *are they controlled under typical task circumstances*? Take, for instance, the AMP: Though it is possible for participants to explicitly evaluate the primes rather than the targets, a circumstance which removes the "implicitness" of the AMP, this is apparently not what participants generally do under normal task instructions (Payne et al., 2013). The same likely applies to the risk of faking on the EPT. Teige-Mocigemba and Klauer (2013) note that "the present findings will in all likelihood not pose a threat to the validity of evaluative-priming measures in most research situations in which participants are not motivated to fake, not given specific directions on how to do so, and/or in which the measurement purpose is often obscured on purpose" (p. 654).

SCOPE OF THE EVIDENCE

We have used findings in the attitudes literature as evidence for evaluative priming. In doing so, we have only looked at cases where the unintentional evaluation of a prime has unintentionally influenced target processing, setting aside cases

where the intentional evaluation of a stimulus unintentionally influences target processing. Even with this limited slice of available evidence, the robustness of the evaluative priming effect is unmistakable. This effect, in its various measure-based variations (including the IAT), has been found many thousands of times over by participants in these studies. We conclude that evaluative priming in particular offers exceptionally strong evidence for the general phenomenon of priming, and in particular of "social" priming (see Herring et al., 2013). This robustness is not surprising, given the possible closeness in presumed process(es) between semantic priming and evaluative priming. That one type typically lives in the cognitive literature and the other in the social psychological literature would seem to be the only (superficial) difference.

HOW COULD THERE NOT BE BEHAVIORAL PRIMING?

In our final section, we make our third argument concerning the debate on social priming. Some have been skeptical not of the type of priming we describe above, but rather only of the type of priming that involves a certain type of behavior (again, the question of what qualifies as sufficiently behavioral is completely unspecified; we would maintain that key presses—such as those observed in evaluative priming research—are indeed behavior). Are there any reasons that the above type of priming (as well as semantic, associative, lexical, etc.) might be robust while behavioral priming is not? Are there important differences between these types of priming? We consider theory and findings that would argue strongly for the occurrence of behavior priming.

OVERLAP OF PERCEPTION, COGNITION, AND BEHAVIOR

Would it be possible for a stimulus to unintentionally prime semantic, evaluative, or other kinds of information related to that stimulus, but not behavioral representations? There are several lines of work that argue against this possibility. First, there is considerable overlap among the representations used to perceive an action, and those used to enact the action. Mirror neurons, for example, fire both when animals (including humans) see another individual performing an action and when they enact the same action (e.g., Rizzolatti & Craighero, 2004). This "common coding" (Hommel, Müsseler, Aschersleben, & Prinz, 2001) is highly suggestive that knowledge about an action could activate the representations involved in performing the action. If so, this suggests that processing words or images related to behavior could make the person more likely to enact that behavior (e.g., Dijksterhuis & Bargh, 2001).

Even more suggestive, the last two decades of work in cognitive science have shown that the field's traditional assumptions about how information flows through the brain from perception to cognition to behavior is outdated. Traditional perspectives suggest that motoric output is the end product of a serial, feed-forward process from perception, through cognition, and finally to action, but more recent work shows that motor movement is continuously updated by perceptual-cognitive processing over time (e.g., Gold & Shadlen, 2001; Song & Nakayama, 2008; Spivey, 2007). For example, when people have to reach for the object whose

name is announced, they will reach toward the *candle* as soon as they hear the first phoneme of that word (*can-*) and then correct their reach once they have heard the full word (*candy*; see Spivey, 2007). This work suggests that the boundary between perception/cognition and action is relatively less strict than once assumed, and that action is an online product that is continuously updated, corrected, and changed depending on ongoing cognition (see also Freeman & Ambady, 2011, 2014). This perspective implies that once knowledge is made more accessible via analysis of a stimulus—if the person *can* behave in a way that is related to that stimulus (see Higgins, 1996)—it seems likely that the stimulus could unintentionally shape behavioral representations.

Evaluative priming research itself also directly reveals the tight link between cognition and action (e.g., Berntson, Boysen, & Cacioppo, 1993). The evaluation of a stimulus activates approach or avoidance response tendencies (e.g., Chen & Bargh, 1999; see Krieglmeyer, De Houwer, & Deutsch, 2013, for a review). For instance, Krieglmeyer, Deutsch, De Houwer, and De Raedt (2010) showed that even in the absence of an intention to approach, avoid, or even evaluate stimuli, positive stimuli facilitated approach and negative stimuli facilitated avoidance behaviors.

One might object that although it is possible to activate many different thoughts about something in parallel, behavior is necessarily more constrained. That is, in the end, one can only reach for one or the other target, not both. This suggests that there may be a restriction in range that emerges for behavior relative to perceptual-cognitive processing. Although this seems true at first glance, it may actually apply to fewer cases than assumed. Whereas many behaviors have to be precise (reaching for something), many others do not. In daily life, there would seem to exist many variants of a behavior that could complete any given task successfully (e.g., take notes on paper, type them, or jot comments in margins), many behaviors that would fit the overarching goal (e.g., succeed academically by taking notes, doing extra readings, or getting a good night's sleep), and many goals that could be pursued at a given time (e.g., academics, social life, or physical fitness). In these senses, behavior is relatively unconstrained. (This also reveals the importance of considering the level of analysis at which this question is posed.) In fact, the availability of a multitude of plausible behaviors at any time is precisely the kind of ambiguous situation that may be most conducive to priming effects, as they can "nudge" the decision one way or the other (e.g., see Higgins, 1996).

A second response is that this restriction in range may not matter. Whatever reduction in information (as the mind settles on an interpretation or decision; e.g., Spivey, 2007) occurs as behavior unfolds following perception of a stimulus, there is presumably still sufficient room for primes to influence such processing. In other words, if there is a bottleneck between perceptual-cognitive processing and behavior, whether it is early (e.g., Loersch & Payne, 2011, 2012, 2014) or late (e.g., Bargh, 2006) in processing, it does not imply on the face of it that primes would not be able to pass through this bottleneck, and thereby affect behavior. In fact, although Loersch and Payne (2011, 2014) argue that it may be rare for primes to have *direct* effects on behavior (though see Schröder & Thagard, 2013, 2014), their model by no means implies that priming effects on behavior will be trivial. They review evidence that when the effects of primes are misattributed to whatever is the focus of a participant's attention, be it an issue of perception, judgment, or behavior, the impact of the prime can be substantial. When any such impact on ongoing processing occurs, the amount of time and processing that intervenes between the pre-

sentation of the prime and the selection of behavior may not *dilute* the effect of the prime, but instead *magnify* it. This provides an explanation for subtle yet powerful effects, like the impact of a simple image on how we vote (Carter, Ferguson, & Hassin, 2011; Hassin, Ferguson, Shidlovski, & Gross, 2007), and bears similarities to recursive effects, like self-affirmation (Cohen, Garcia, Purdie-Vaughns, Apfel, & Brzustoski, 2009; Walton & Cohen, 2011). If subtle cues can affect perception and cognition, which in turn affect behavior, then it seems untenable to deny that primes can impact behavior, however directly or indirectly. Like spreading waves from a stone hitting the surface of a pond, the downstream consequences of a prime may far exceed the here and now.

CONCLUSIONS

We have argued that the current controversy surrounding social priming is suffering from a comprehensive lack of definitional precision. This limits the ability to accurately assess (and remedy) any issues or problems. We see no a priori difference in kind between the sort of priming reported in the cognitive psychology literature and evaluative priming reported in the social psychology literature. And, not surprisingly given the robustness of semantic priming, we review evaluative priming and conclude that it is an extremely reliable phenomenon. Finally, we argue that if one accepts the types of "non-behavioral" priming such as semantic and evaluative priming, it is very difficult to reject outright the possibility of other sorts of behavioral priming.

   We offer a few final words on the "crisis" in social psychology. It may well turn out that many of the findings in the pages of psychology journals turn out to be non-replicable. The question is why, and we urge scholars to not assume the cart before the horse. First, some non-replications are to be expected (we as a field have to figure out how much is too much). If there is too much non-replication (though see Stanley & Spence, 2014), then we need to assess how much of it is due to poor methodological practices versus shoddy theory (or both). If the methods are sound (which seems unlikely given the plethora of between-participant designs in social psychological research; see also Simmons, Nelson, & Simonsohn, 2011), then the pertinent theories need to be revised. If the vast majority of the problem turns out to be methodological, however, then the theoretical assumptions related to the empirical results have yet to be tested properly. We are nowhere close to having to abandon the longstanding claim that we routinely, and unintentionally, "go beyond the information given" (Bruner, 1957).

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