AUTOPRIMING:
THE PRESENTATION OF A POTENTIALLY UNIQUE COGNITIVE
TRANSFERENCE PHENOMENON

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Ian P. Berger
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AUTOPRIMING: THE PRESENTATION OF A POTENTIALLY UNIQUE COGNITIVE TRANSFERENCE PHENOMENON

BY

IAN P. BERGER

has been approved for

the Department of Psychology

and the College of Arts and Sciences by

Mark D. Alicke

Professor of Psychology

Leslie A. Flemming

Dean, College of Arts and Sciences
There is little doubt that people evaluate others based on limited information. The information used when evaluating others oftentimes has little to offer in terms of accuracy of evaluations, but is used nonetheless. The thrust of the current research is an examination of the roles of priming, the self, and attitudes in social judgment, specifically addressing a form of cognitive transference referred to herein as **autopriming**. It is hypothesized that without regard to personal beliefs, people will use information they have generated when making social judgments, information that will have no effect (or less of an effect) on individuals who are exposed to this information but do not generate it. Three studies were conducted. Two of the three supported the autopriming hypothesis. Although the results of the three studies do not offer unequivocal support for the hypothesized autopriming phenomenon, there are some interesting findings worth examining.

**Approved:** Mark D. Alicke  
Professor of Psychology
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There is little doubt that people evaluate others based on limited information. The information used when evaluating others oftentimes has little to offer in terms of the accuracy of these evaluations, but is used nonetheless. Although there has been some contention regarding the automaticity of these evaluations (for a review and rebuttal see Langer, 1978), they seem to occur routinely and spontaneously (Winter & Uleman, 1984; Winter, Uleman & Cunniff, 1985; Gilbert & Krull, 1988; Gilbert, Pelham & Krull, 1988; Gilbert, Krull & Pelham, 1988; for reviews see Winter, Uleman & Cunniff, 1985 and Gilbert 1989). In spite of their apparent pervasiveness, social psychologists know relatively little about how people make these spontaneous interpersonal judgments.

Social psychologists have put a great deal of effort into exposing the faulty processes people utilize in making social judgments, and the current research intends to add to this knowledge base by demonstrating a phenomenon involving generation of arguments and social judgment. Previous attempts to neatly describe the mechanisms involved in social judgment have often concerned themselves with the findings associated with either the priming/attitude accessibility\(^1\) or the egocentric comparison literature. Findings supporting the priming/attitude accessibility approach tend to indicate that expressed attitudes or opinions (i.e., those made salient or accessible) will influence judgments regarding third parties (for a review see Higgins, 1996). Proponents of the second approach (i.e., egocentric comparison) are more inclined to make the assertion that it is one’s own opinions or beliefs that influence these social judgments (Ross,
Greene & House, 1977; Markus, Smith & Moreland, 1985; Alicke & Largo, 1995; Biernat, Manis, & Kobrynowicz, 1997).

Although there are almost certainly situations in which each of the aforementioned explanations can explain some social judgments, neither seems able to explain the entire spectrum of social judgment phenomena. The thrust of the current research is a further examination of the respective roles of priming, the self, and attitudes in social judgment, all within the context of cognitive transference, defined as transferring a thought, motive, belief or attitude onto other targets (Alicke, LoSchiavo, & Buckingham, 2000). The current research concerns itself with the concept referred to as autoprimer, which manifests itself in social judgment independent of simple priming effects or personal attitude. It is believed that without regard to personal beliefs, people will use information they have generated when making social judgments, information that will have no effect (or less of an effect) on individuals who are exposed to this information but do not generate it. For example, a pro-choice advocate constrained to generate anti-abortion rights statements (i.e., counter-attitudinal arguments) will be more likely to judge a neutral target as being anti-choice than will a pro-choice advocate who has simply been primed with anti-abortion rights statements.

One important consideration in the present research is that as in other forms of cognitive projection, these auto-primed thoughts are not necessarily representative of a person's actual beliefs or opinions. Transferred items can be quite influential in social judgment, even when cognitive projection occurs independently of one's own views (Alicke et al., 2000). Another distinction is that the mental contents that are to be transferred are self-generated rather than presented by an outside source.
Because no previous research specifically addressing auto-priming has been conducted, the structure and predictions of other areas of attitude and social judgment (i.e., egocentric comparison and priming/salience) will be discussed, with special emphasis placed on the concept of cognitive transference. Because the current research deals with self-generated attitudes, there will also be a discussion regarding the nature of the self in social psychology. The purpose of this summary is not to offer an exhaustive review of all the applicable areas, but to give an overview sufficient to explain how the hypothesis of the research reported later in this paper relates to or deviates from these previous findings.

Relevant Theory and Implications

The Self

Attitudes can be loosely defined as summary evaluations of objects (Petty, Wegener, and Fabrigar, 1997). Because these evaluations are made by an individual, the self would seem to be involved in the formation and use of attitudes. The concept of “self” bears examination in the context of attitude transference, social judgment, and the focus of the present research: autoprimeing.

One question that must be posed when considering attitudes and the self is whether or not personal attitudes bias judgment regarding the object of these attitudes. The extant literature strongly supports the contention that personal attitudes can moderate perception and ratings regarding attitude objects. Some of the classic research in this area has shown that perceptions of possible rule infractions during football plays were in large part mediated by participants’ team allegiance (Hastorf & Cantril, 1954), participant attitudes towards an experimental confederate mediated causal attributions of
attitudinally inconsistent behavior by the confederate (Regan, Straus, & Fazio, 1974), and that attitudes regarding capital punishment affected assessments of empirical evidence regarding the deterrent effects of capital punishment (Lord, Ross, & Lepper, 1979). Research has also shown that attitudes towards presidential candidates colored assessments of candidate performance during presidential debates (Fazio & Williams, 1986) and that initial support of a political figure was indicative of later perception and evaluation of that figure (Carretta & Moreland, 1982). Clearly, there is a great deal of evidence indicating that personal attitudes bias judgment. In all of the studies cited above (i.e., Hastorf & Cantril, 1954; Regan et al., 1974; Lord et al., 1979; Fazio & Williams, 1986; Carretta & Moreland, 1982), people’s attitudes led to biased perception and processing of events relevant to the attitude object.

In an investigation of egocentric comparison in social judgment, Dunning and Hayes (1996) contended that people activate and utilize their self-conceptions as norms when evaluating others. In their first study, Dunning and Hayes found that 71% of their participants reported using themselves as norms when evaluating the performance of others. In their second and third studies, Dunning and Hayes looked at response latencies of individuals asked to describe their own behavior after judging another person’s behavior. Those who were asked to judge another individual first were faster in describing their own behavior than were those who did not judge another individual first. Dunning and Hayes contend that this finding suggests that individuals access information about their own behavior when judging others. They also argue that this egocentric comparison in social judgment occurs spontaneously, and that previous evidence of negative correlations between self-behavior and social judgment (Dunning & Cohen,
1992) were functions of this self-activation. Although they stop short of claiming that this egocentric comparison is a ubiquitous phenomenon, Dunning and Hayes close their paper as follows:

One can only wonder how accessible self-information would become if egocentric comparison were a day-to-day strategy in social judgment. If self-information were that frequently primed, how could it not help but influence people’s judgments of others? (p. 228).

One question raised by the findings of Dunning and Hayes (1996) is whether or not this egocentric comparison is limited to behavioral self-information. Can attitudinal self-information be similarly primed and utilized in social judgment? It seems likely that if one were true, so would be the other. Is attitudinal self-information primed and utilized in social judgment? The current research will investigate this question, albeit in the form of a null hypothesis rather than a research question. Specifically, the paradigm presented herein tests the theory that although primed information may be utilized in social judgment, this primed information need not be attitudinally self-reflective in nature. More notably, the current research also proposes that this primed information will be projected onto evaluated targets.

Markus, Smith, and Moreland (1985) examined the role of the self-concept in the perception of others. They defined the self-concept as “a set of cognitive structures (self-schemas) that provide for individual expertise in particular social domains” (p. 1494) and concluded that it "(could) influence the entire person perception process, including the
perception and organization of behavior of others, the memory for and inferences about the behavior, and the evaluation of it" (p. 1510). Although Markus and her colleagues discuss the role of the self-concept, their definition of the self-concept leaves unclear the circumstances in which the use of oneself as a cognitive reference point will yield to the use of external forces (e.g., priming) as cognitive reference points. By providing another piece of the puzzle, autopriming may bring us closer to seeing the entire picture painted by social perception and judgment phenomena.

The reviewed research regarding attitude and judgment suggests that personal attitudes will influence judgment in a pattern consistent with these attitudes (e.g., Hastorf & Cantril, 1954; Regan et al., 1974; Lord et al., 1979; Fazio & Williams, 1986, Carretta & Moreland, 1982). Although this research has focused on attitudes toward a specific object impacting judgments regarding that same object, it does not seem an unreasonable stretch to consider this relevant to the influence of attitudes on judgments regarding others.

*Attitude Accessibility and Priming*

Assuming the above reasoning is valid, what would it take to nullify the tendency of personal attitudes to influence social judgment. Further, under what conditions will social judgment actually go against personal attitudes? One possibility is that attitude accessibility or simple priming will have this effect. This contingency is hinted at in the research of Higgins, Rholes, & Jones (1977). Higgins and colleagues investigated category accessibility and its role in impression formation. They predicted that in characterizing a stimulus person (neutral target), participants would use activated trait categories, but only when these activated traits were made applicable to the stimulus
person. Participants were primed with both applicable and nonapplicable negative or positive traits. These “applicable” traits were paired so that similar traits composed each positive/negative set (i.e., “adventurous” vs. “reckless,” “self-confident” vs. “conceited,” “independent” vs. “aloof,” and “persistent” vs. “stubborn”). The “nonapplicable” traits were unambiguously positive (i.e., “obedient,” “neat,” “satirical,” and “grateful”) or negative (i.e., “disrespectful,” “listless,” “clumsy,” and “sly”). After the priming phase, experimental participants read a paragraph about the stimulus person that incorporated behaviors that could fall within either trait in each “applicable” trait pair. No behaviors were mentioned in the paragraph that would be linked with any of the primed “nonapplicable” traits. Control group participants were primed with “nonapplicable” traits. Higgins and his colleagues found the predicted effect, but only in the experimental group; participants used trait categories that had been activated, but only when these activated traits were made applicable to the stimulus person. For example, a person presented with the word "reckless" during the priming stage would subsequently view a skydiver more negatively than would a person presented with "adventurous" during the priming stage. Presumably, the desirability of the primed traits impacts later judgments of people who exhibit behaviors that fall into the realm of the primed trait.

In a continuation of this line of research, Srull and Wyer (1979) found that the frequency of trait-congruous behaviors impacted the effects of priming. In a paradigm similar to that used by Higgins et al. (1977), Srull and Wyer manipulated the number of times unambiguously hostile (Study 1) or kind (Study 2) behaviors were presented to participants. Participant ratings of a stimulus person (neutral target) were taken at one of three time intervals – immediately, with a one-hour delay, or with a 24 hour delay. Srull
and Wyer reported results in line with those of Higgins et al.; participants rated stimulus targets using the traits that had been activated/primed. Further, this effect was enhanced by the number of times the trait had been activated.

One methodological difference between Higgins and colleagues (1977) and Srull and Wyer (1979) seems especially relevant to the current research. The priming task that Higgins and colleagues used was simple exposure to trait terms. In contrast, Srull and Wyer had participants construct sentences from words that were unambiguously related to the traits in question (e.g., “leg break arm his”). Although not discussed by Srull & Wyer, this difference in methodology might place participants in a situation that by virtue of task involvement goes beyond simple priming. The act of constructing sentences is important here, as the current research is predicated on the idea that task involvement will be differentially predictive of neutral target ratings than simple priming.

Sherman, Mackie, & Driscoll (1990) also presented research indicating that primed categories would impact evaluations of third parties. Sherman and colleagues primed participants with one of two political perspectives and found that the primed perspective influenced what pieces of information participants used in making subsequent evaluations of political candidates. To wit, participants primed with economic terms were more likely to make evaluations based on economics than were participants primed with terms related to foreign policy. As expected, the reciprocal relationship was also found.

Although these priming effect findings (Higgins et al., 1975; Srull and Wyer, 1979; Sherman et al., 1990) and the previously discussed findings regarding attitude and judgment (Hastorf & Cantril, 1954; Regan et al., 1974; Lord et al., 1979; Fazio & Williams, 1986, Carretta & Moreland, 1982) are not entirely incompatible, they do
suggest that at the very least, there will be situations in which the relative effects of
primed attitudes and personal attitudes will be at odds.

Although the priming research (e.g., Higgins et al., 1975; Srull and Wyer, 1979; Sherman et al., 1990) may speak to the issue of biased processing, it has little to relay regarding the relationship between primed attitudes and previously held personal attitudes. In contrast to previous research methodologies that avoid the conflict between primed attitudes and previously held personal attitudes, the current research attempts to create and investigate such situations. As previously stated, the current research is predicated on the idea that task involvement - operationalized here as the composition of attitudinal statements - will be predictive of neutral target ratings. The present research will create one possible scenario in which people will use attitudinally inconsistent self-generated information to make assessments of third parties. The possibility that simple priming effects (e.g., Higgins et al., 1975; Srull & Wyer, 1979; Sherman et al., 1990) are fueling this phenomenon will be discussed later in this paper and controlled experimentally in the proposed research.

False Consensus Effect / Social Projection

One of the primary areas of research that taps into the role of the self in judgment is that of social projection. Social projection, studied recently as the “false consensus effect” (Ross, Greene, & House, 1977; for a review see Krueger, 1998), is one of the categories of cognitive transference (as will be discussed in the following pages), and is one of the more time-honored and durable findings in the social psychology arena. The false consensus effect can be defined as a tendency for people to overestimate the proportion of others who agree with their opinions and preferences (Ross et al., 1977).
For example, a Boston Red Sox fan might tend to think more people like the Red Sox than actually do, while non-Red Sox fans will be more realistic regarding the proportion of the population who like the Red Sox.

The earliest work in the social projection arena is that of Katz and Allport (1931), who found that students who cheated on exams expected others to cheat more. This tendency to overestimate consensus is another way (apart from attitude transference) that the self appears to manifest itself in evaluations and judgment. Krueger (1998) outlined three implicit assumptions tied into the concept of social projection: correlation, causation, and exaggeration. Simply, correlation refers to the assumed linear relationship between ones own response patterns and estimates of the response patterns of others; causation refers to the assumption that it is one's own behavior which causes this relationship, not the reverse; last, the exaggeration assumption states that this social projection is employed too frequently and leads to inaccurate judgments.

Alicke and Largo (1995) examined the role of the self in the false consensus effect. In their first study, Alicke and Largo demonstrated that participants who succeeded in a task estimated that significantly more people would succeed than did those who failed the task, but that this difference was not significant for participants who were merely informed that another person had succeeded or failed. This result lends itself to the interpretation that the self is directly involved in the judgment-making process.

Given the nature of the extant false consensus effect literature, the argument could arise that the false consensus effect is responsible for attitude transference effects such as those found by Alicke et al. (2000). In other words, rather than making judgments about other individuals based on one’s attitudes or opinions (as theorized in attitude
Autopriming is conceptualized as a form of cognitive transference. As mentioned earlier, cognitive transference can be defined as transferring a thought, motive, belief or attitude onto other targets (Alicke et al., 2000). The concept of transference harkens back as far as Freud (See Brill, 1938), who conceived it as an ego-defense mechanism. Since Freud, the notion of transference/projection has been broadened. In their review of the literature, Alicke and colleagues broke the concept of cognitive transference down into five categories. These categories distinguish themselves from each other in four ways. Two of the differential factors are the generative source and the transference target. Simply put, the generative source concerns the origination point of the attitude to be
transferred and the transference target is the recipient of the transference. The other
differential factors are the content or nature of the item to be transferred and the content
of the item that is actually transferred. The five categories of cognitive transference as
defined by Alicke and his colleagues are:

1. **Classical projection** involves transferring one’s own motives or beliefs onto another
   person in the form of the same motives or beliefs (attributive projection) or similar,
   related motives or beliefs (complimentary projection).

2. **Social projection.** As discussed in the preceding section, social projection (A.K.A. the
   false consensus effect) entails the transference one’s attitudes or behavior preferences
   onto members of a peer group in the form of the same attitudes or behavior
   preferences.

3. **Trait transference** occurs when a person transfers a described trait onto the person
   generating the description, even though the description is of a third party. For a fuller
   exposition of trait transference, see Skowronski, Carlston, and Crawford (1998).

4. **Priming, or category-activation,** is when an external source “primes” a trait, which is
   then projected onto another person. The priming research has already been reviewed
   herein, but will be revisited later in this paper.

5. **Attitude transference** consists of a person transferring an attitude expressed by one
   person onto another person.

   Alicke and colleagues (2000) presented a series of five studies addressing attitude
   transference. These studies demonstrated that contrary to the assumptions made by
   classical and social projection, both self-related and non-self-related mental contents are
   subject to transference.
In their first three studies, Alicke and his colleagues (2000) found that exposure to favorable or unfavorable attitude positions influenced ratings of both specific neutral targets and consensus estimates. After being exposed to one side of an issue, participants not only projected that opinion onto others, but their estimates of peer consensus skewed toward the direction of the exposed attitude. In the third study, the latency between exposure and neutral target attribution was a full week, yet the projection effect was still observed.

Alicke and his colleagues’ (2000) fourth study added two new elements to the attitude transference paradigm. First, the role of cognitive accessibility in attitude transference was assessed. This was accomplished by using response time measurement to assess any impact favorable or unfavorable attitude priming might have on responses to further favorable or unfavorable attitude statements. It was found that after statistically compensating for a general tendency for people to respond more quickly to positive statements, those individuals primed with favorable statements were quicker to respond to further favorable statements than were those primed with unfavorable statements. Similarly, those primed with unfavorable statements were quicker to respond to unfavorable statements than were those primed with favorable statements. These findings would seem to be in line with priming effects (e.g., Higgins et al., 1975; Srull and Wyer, 1979; Sherman et al., 1990) and attitude accessibility effects (see Fazio et al., 1994). Again, the nature and role of priming and attitude accessibility will be addressed further in this paper.

Study 5 in Alicke et al.'s (2000) paper, in addition to replicating the first four studies, evaluated the effects of personal attitudes in attitude transference. Their results
indicated that even when taking personal attitudes and consensus estimates into account, the exposure effects shown in the first four studies were replicated. In short, the attitude transference exhibited by Alicke and colleagues cannot be fully accounted for by exaggerated consensus or by the transference of personal attitudes. This last finding seems to be somewhat at odds with much of the extant literature regarding attitude and judgment (Hastorf & Cantril, 1954; Regan et al., 1974; Lord et al., 1979; Fazio & Williams, 1986; Carretta & Moreland, 1982), and raises the question of when, where, and under what circumstances primed attitudes will influence social judgment as opposed to personal attitudes influencing social judgment.

In the context of the current research, the attitude projection findings of Alicke et al. (2000) are potentially important. The finding that non-self related material could be transferred is the cornerstone of the current research. Furthermore, it is the evidence that this projection can occur independent of personal attitude that in part leads to the predictions of the current research. Autopriming distinguishes itself from the previously defined types of cognitive transference, and would be considered a sixth form of cognitive transference. Although the generative source in autopriming is the self, as in both classical and social projection, content of the transferred items are not one's own motives, beliefs, attitudes, or behavior. Instead, they are attitudes expressed by the source individual that are not necessarily representative of his or her own attitudes. For a summary of the distinctions between categories of cognitive transference, including the hypothesized autopriming effect, see Table 1.
When considering autoprimeing as discussed thus far, it is important to examine possible alternate explanations of autoprimeing. Any time the idea of a primed attitude is involved in a research paradigm studying cognitive projection, the issues of simple priming effects and attitude accessibility must be examined. As mentioned earlier in this paper, previous research has indicated that priming and attention in and of themselves can impact individuals (e.g., Sherman, 1990; Taylor & Fiske, 1978).
Table 1. Categories and Characteristics of Cognitive Transference

<table>
<thead>
<tr>
<th>Class</th>
<th>Generative Source</th>
<th>Content of Item To Be Transferred</th>
<th>Transference Target</th>
<th>Content of Transferred Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classical Projection</td>
<td>Self</td>
<td>Motives or Beliefs</td>
<td>Person A</td>
<td>Same motive or belief (attributive projection) or its complement (complementary projection)</td>
</tr>
<tr>
<td>Social Projection/False Consensus</td>
<td>Self</td>
<td>Attitudes or Behavior Preferences</td>
<td>Peer Group</td>
<td>Same attitude or behavior preference</td>
</tr>
<tr>
<td>Trait Transference</td>
<td>Person A</td>
<td>Trait-Inplying Sentence</td>
<td>Person A</td>
<td>Trait implied by sentence</td>
</tr>
<tr>
<td>Priming</td>
<td>External Source Trait</td>
<td>Person A</td>
<td>Trait</td>
<td></td>
</tr>
<tr>
<td>Attitude Transference</td>
<td>Person A</td>
<td>Attitude</td>
<td>Person B</td>
<td>Same attitude</td>
</tr>
<tr>
<td>Auto-Priming</td>
<td>Self</td>
<td>Attitude</td>
<td>Person B</td>
<td>Auto-Primed attitude</td>
</tr>
</tbody>
</table>

*Note: This table adapted from Alicke, LoSchiavo, & Buckingham (2000).*
Although the roles of salience and attention have been primarily studied in the realm of causal attribution, the possible role of salience and attention in other perceptions has been recognized and empirically examined (e.g., Taylor & Fiske, 1978). The evidence that differential attention towards individuals can impact judgments has strong implications for differential attention to attitudes impacting judgments of third parties. In fact, in their overview, Taylor and Fiske express hope that “in the future more attention will be paid to perceptions in addition to explicitly causal ones…(p. 268).” The autopriming research reported here speaks to this hope somewhat; though almost certainly not in the guise Taylor and Fiske envisioned.

In the context of the current research, it is difficult to tease apart priming (e.g., Sherman et al., 1990) and salience (see Taylor & Fiske, 1978). Undoubtedly, the two constructs are related. After all, priming can create salience. Although the current research does not specifically address salience, priming and differential attention, it is important to recognize the implications of the extant literature. As noted previously, this salience literature may present a possible alternate explanation for the findings that the current research expects to present. It is imperative, therefore, to account for this eventuality in the construction of the current experimental design. This will be attempted in the current research paradigm by “yoking” participants to statements written by the “writer” participants. The notion of yoking will be explained more fully in the method sections of the research reported here.

Considerable work has been done investigating the role of attitudes and category accessibility in social psychology. Because an attitude can be considered a category, the current discussion will not address nor make a distinction between attitude accessibility
and category accessibility. Additionally, just as teasing apart research on priming and salience is difficult, it is not easy to completely separate attitude and category accessibility research from priming and salience research, though it has been attempted (for an especially thorough discussion of the activation, salience, priming, and accessibility literature, see Higgins, 1996). Higgins et al. (1975) used priming to activate category accessibility, while Sherman et al. (1990) seemed to consider priming an entity of its own. The point here is to capture the essence of what has been done previously in an effort to understand what has been done in the current research, especially given that aspects of the autopriming phenomenon go against predictions made by much of this previous research.

In his treatise on the role of attitude accessibility in the power and function of attitudes, Fazio (1989) presents a model in which an attitude must be accessible from memory to influence perception, information processing and behavior. Fazio contends that the accessibility of an attitude is a function of the strength of the object-evaluation association that defines the attitude. In this framework, the term object is used in a very broad sense, and may refer to anything from a person or social issue to categories of people or categories of social issues. Similarly, an evaluation can range from a very “hot” affect or a more cognitive favorable or unfavorable judgment.

The strength of object-evaluation associations was investigated in two studies (Fazio et al., 1982; Powell & Fazio, 1984). Powell and Fazio utilized a paradigm that manipulated the number of times an attitude was expressed. This was accomplished by controlling the number of semantically related items relevant to a specific attitude. These items were presented to participants, thereby inducing them to express their attitudes. In a
subsequent task, it was found that response latency related to the number of expression-inducing items previously given to participants. Specifically, the more semantically related items relevant to a specific attitude were given to participants in the first stage, the less time it took participants to respond to an attitudinal inquiry.

Fazio (1989) asserts that the findings of Powell and Fazio (1984) support the idea that attitudes are object-evaluation associations, and that attitude accessibility is dependent on the strength of this association. Two key features of Fazio's model as concerns the current research are that attitudes can be activated automatically and that the strength of the object-evaluation association dictates the likelihood of this automatic activation. These two features are relevant to the current research in two ways:

First, if personal attitudes are activated automatically based on exposure to associative objects, then contemplating either side of a given issue should, given Fazio's model (1989), activate one's personal attitude without respect to which side of an issue is contemplated. This predicted activation should be especially strong when the attitude held is strongly held. This anticipated outcome should only be enhanced as the strength of a personal attitude increases. The hypothesis driving the current research, however, is not consistent with Fazio’s model. Specifically, it is predicted that contemplating and creating statements supporting one side of a given issue will prime that side of the issue to the extent that personal opinion will be relegated to the back burner, so to speak, in neutral target attribution tasks.

Second, the current research predicts that the strength of a personal attitude will have no impact upon this process. In other words, in contrast to predictions made by - and in the language of - Fazio's (1989) model, I predict that the strength of the object-
evaluation association will have no predictive value for the retrieval and use of a personal opinion in the neutral target attribution task included in this study.

Fazio (1989) also reviews the attitude/non-attitude distinction. This distinction revolves around an experimental artifact involving survey responses to attitude items for which participants have no actual preexisting attitude. Hovland (1959) and Converse (1970) both arrived at the attitude/nonattitude distinction in attempts to reconcile issues arising from attitude change research. Converse characterized a nonattitude as unreliable measurement arising from virtually random responses to survey items. These nearly random responses are indicative of an absence of a priori attitude object evaluations. Without preexisting evaluations of attitude objects, no actual attitude exists, and no reliable measurement of an attitude can be made.

The attitude-nonattitude distinction can be thought of as not only a measurement error (Converse, 1970), but a possible confound for attitude preference or attitude change data predicated upon initial opinion responses and manipulations that ostensibly change opinion but may in fact generate it. Similarly, the strength of a personal attitude may very well mediate whether it is one’s own attitude or a primed attitude that will be more influential in social judgment. This attitude-nonattitude distinction is an important consideration when investigating attitudes - especially when considering and applying Fazio's model. Markus and her colleagues (1985) also spoke somewhat to the relevance of the attitude-nonattitude distinction. They claimed that the self-concept is more likely manifest itself in person perception when the perceiver is very involved with and/or has a vast bank of knowledge about the relevant domain.
In light of the possibility that the attitude-nonattitude distinction has the potential to appear in both person perception/judgment and in the reporting of attitudes, the present research will select only participants who report an extreme attitude of great personal importance to them on a pre-screening form.

Although the areas of research discussed provide a plethora of models through which to understand and predict social judgment, the current research endeavors to demonstrate a replicable pattern of social judgment that cannot be fully accounted for by any of these preceding findings.

In contrast to predictions which might be made by the extant attitude and judgment literature (e.g., Ross et al., 1977; Markus et al., 1985; Alicke & Largo, 1995; Biernat et al., 1997) or the five existing categories of cognitive transference (Alicke et al., 2000), it is predicted that mental contents that are generated within the self, not consistent with personal attitude, and not presented by an outside source will impact ratings of neutral targets. This autopriming effect may be considered a “superprime” of sorts, in that the autopriming effects demonstrated will be stronger than - but in the same direction as - those that would occur in simple priming. It is, of course, possible that these simple priming effects will be demonstrated, but enhanced by the autopriming procedure. This is examined somewhat in the design of the final study reported in this paper, but will likely need to be addressed further in future research.

This eventuality aside, autopriming effects in the absence of simple priming and attitude projection effects would raise many questions about previous findings regarding attitude and judgment (e.g., Hastorf & Cantril, 1954; Regan et al., 1974; Lord et al., 1979; Fazio & Williams, 1986; Carretta & Moreland, 1982), attitude
accessibility/priming (Higgins et al., 1975; Srull & Wyer, 1979; Sherman et al., 1990),
and the other (i.e., non-priming) forms of attitude transference (Alicke et al., 2000).

Another possibility is that there is some form of cognitive dissonance occurring. If people experience dissonance as a result of articulating opinions contrary to their own, they may compensate by assuming other people feel this way. Such a response might serve to alleviate dissonance by justifying the expression of counter-attitudinal statements with an inflated estimate of other peoples' endorsement (a false consensus effect, if you will). In terms of dissonance reduction, this could allow an individual to take less responsibility for his or her ability to write statement counter to personal opinion ("It was easy for me to write those things because everyone feels that way and I've been exposed to their viewpoints"). This in turn could lead to ratings of neutral targets in line with this "counter-consensus." Previous research has demonstrated that writing an attitude-discrepant essay will actually change one’s own attitude in the direction of the initially attitude-discrepant essay (See Fazio, Zanna, & Cooper, 1977). The cognitive dissonance theory (Festinger, 1957) postulates that this attitude change can be explained by a motivation to maintain some consistency in the evaluation of relevant cognitions. Festinger and Carlsmith (1959) showed that people who behave in ways contrary to their attitudes would change their attitudes to provide attitude/behavior consistency. However, Linder, Cooper, and Jones (1967) demonstrated that this effect was wiped out when the behavior was not seen by participants as freely chosen, an important consideration given that participants in this research have not been given the liberty to choose the perspective which they are to defend.
The hypothesized autopriming effect raises questions regarding the mechanism involved. Why should counter-attitudinal opinions expressed impact social judgment independent of simple priming effects? One possibility is that there is differential priming strength. That is by virtue of task involvement, participants in the writer conditions are simply primed more strongly than those in the yoked conditions. Although this might seem an unexciting interpretation on the surface, it might be possible that autopriming can correct for erroneous social judgment. Specifically, expressing counter-attitudinal positions might mitigate the problem of inaccurate egocentrically oriented social judgment. Future research might focus on the impact this might have on judgments of socially undesirable traits (e.g., racism, sexism, etc.).

None of the possible explanations above strike a blow per se to autopriming. In fact, autopriming might present itself as a bridge of sorts. By connecting attitude accessibility, priming, and egocentric bias in social judgment, autopriming may allow for an integration of models into a viable framework explaining the strength of different sources of influence in social judgment.

Pilot Studies

Two pilot studies were carried out to ascertain the possible impact of autopriming on judgments of neutral target attitude. The nature and results of these two studies are explained below.

*Pilot Study 1*

The first pilot study was an investigation of neutral target attribution using the then-recent Clinton/Lewinsky scandal. Participants were 74 undergraduates at a state university (56 female) who participated in partial fulfillment of course requirements.
Each participant was led into a room and told that he or she would be taking part in two separate experiments. This deception was included in order to make the actual purpose of the study less obvious. To begin what was ostensibly the first study, participants were initially asked to complete a questionnaire assessing their personal opinion of President Clinton’s guilt. Following is the key item on the questionnaire, a dichotomous measure of President Clinton’s guilt:

Do you believe that President Clinton was guilty of the charges? (Note: we are only interested in your opinion of guilt, not your opinion regarding whether or not President Clinton should have been removed from office)

After completing this form, the first 37 participants were designated “writer participants” and were randomly assigned to write statements supporting the guilt or innocence of the president. The actual instructions follow, with the directional manipulation parenthesized and capitalized:

We are in the process of assessing college students’ attitudes about the impeachment proceedings. We are interested in getting as many statements as possible on both sides of this issue. In order to ensure that we get a sufficient number of responses on both sides, you have been randomly chosen to write a few statements or sentences supporting the GUILT (INNOCENCE) of the president. This may be against your actual opinion, but we need arguments AGAINST (FOR) the president, and any input you can add would help. Thank you.
Despite hopes to the contrary, of the 37 writer participants, only 3 reported an initial opinion of Clinton being innocent. Because of this, the data presented are based only on the 34 writer participants who expressed an initial opinion of guilt regarding the President.

After writing their statements, the writer participants were thanked and told that they were to take part in another unrelated study, ostensibly regarding non-verbal cues. To begin this “second study” they were shown a videotaped segment of a personal interview without audio, and asked to rate the person in the video’s opinion regarding President Clinton’s guilt. There were three different videos of neutral targets, although each participant viewed only one video.

To insure that the three different videotapes used were not differentially predictive of participant responses, an ANOVA was performed on responses of neutral target guilt by videotape version across all participant groups and conditions. There were no significant differences between the three videotapes used in this study ($F(2,70)=.132$, $p=.876$).

Figure 1 illustrates the writer participants’ estimates of the neutral target’s opinions regarding President Clinton’s guilt. It bears repeating that all 34 individuals represented in this figure reported an initial opinion supporting Clinton’s guilt, so it seems safe to assume that differences reported were an unconfounded result of the experimental manipulation. A chi-square test of association was performed on the writer participants, and it was found that those who wrote statements expressing Clinton’s innocence were more likely to rate the neutral targets as supporting Clinton’s innocence.
than those who wrote statements expressing Clinton’s guilt ($X^2(1, N=34)=5.38, p<.025$).

This supported the hypothesis that writing statements supporting a position would lead people to use that position when judging neutral targets. To investigate the possibility that the writing manipulation would lead to attitude change or shifts in consensus estimates, further analyses were performed. A chi-square test of association was performed on the writer participants, and the attitude expressed in the written statements was not significantly related to a post-test measure of attitude regarding Clinton’s guilt, ($X^2(1, N=34)=.471, p=.493$). This indicates that writing counter-attitudinal statements did not lead to attitude change in the writer participants. In addition, a one-way ANOVA was performed on writer participants in order to determine if their consensus estimates were impacted by the writing condition. Consensus estimates were not significantly impacted by the expressed attitude in the writer condition ($F(1,31)=.950, p=.337$). The last two analyses suggest that the autoprimed indications of neutral target opinion could not be explained by changes in personal attitude or consensus estimates due to the autoprime procedure.
The next phase was to show that the observed autopriming effect was distinguishable from simple priming per se. In an attempt to rule out this simple priming/salience/mere exposure effect explanation for these findings, further participants were “yoked” to each of the statements written by the writer participants. Each “yoked participant” was randomly matched to one of the statement sets created by the writer participants. After filling out the same initial questionnaire as the writer participants, these “yoked” participants were asked to read and rate one of the statement papers. The yoked participants completed a short questionnaire regarding the statements they had just read. Just as were the writer participants, the yoked participants were then shown one of the three neutral target videos and asked to judge the neutral target’s opinion regarding Clinton’s guilt. Of the 37 yoked participants, 33 expressed an initial opinion of President

Figure 1. Writer participant ratings of neutral targets regarding guilt, pilot study 1.
Clinton’s guilt, and it is only the data collected from these 33 participants that is reported here.

Figure 2 illustrates the Yoked participant indications of neutral target opinion regarding President Clinton’s guilt. As expected, the difference in conditions does not approach statistical significance ($X^2(1, N=33)=.750, p=.387$). The statements they read did not reliably impact the judgments of those in the yoked condition. This is inconsistent with what would be predicted based on the findings of the priming literature (e.g., Sherman et al., 1990). If a simple priming effect had been observed, the argument could be made that the observed effect in the “writer” condition was due to simple priming, and not the autopriming effect hypothesized here.

*Figure 2.* Yoked participant ratings of neutral targets regarding guilt, pilot study 1.
Figure 3 illustrates the interaction between source of statements (self/“writer” (writer participant) vs. other/“yoked” (yoked participant)) and attitude expressed within statements (Clinton guilty vs. Clinton innocent) upon the percentage of “guilty” neutral target opinion attributions. In an attempt to better assess the data, two logistic regressions were conducted. The first logistic regression was performed with statement attitude (guilty/not guilty) and condition (writer/yoked) as independent variables. Statement condition significantly predicted neutral target judgments ($\beta=1.14$, $p=.027$). The second logistic regression was performed in order to assess the interaction term in the presence of the two predictors. With the interaction term in the model, there were no significant predictors of judgments regarding the neutral target (including the interaction). This lack of significance may have been due to the small sample size and in this study. Though the lack of power limits the ability to make definitive conclusions, priming did seem to occur, with autopriming adding to it. Power concerns are addressed in the final study reported here.

Figure 3. Percentage of “guilty” neutral target opinion attributions by source of statements and attitude expressed within statements, pilot study 1.
There were two obvious limitations of the first pilot study: 1) the dichotomous nature of the primary dependent variable; and 2) the lack of divergent initial opinion regarding the issue among the sample. The second pilot study endeavored to correct these limitations by: 1) including an interval scale for the neutral target attribution dependent variable; and 2) selecting an issue that would likely reveal a wider range of opinions.

Pilot Study 2

The second study, excepting the modifications outlined above, began as a replication of the first study. The issue used in this study was the current (at the time) United States involvement in the Kosovo crisis. As outlined above, the neutral target attribution materials were modified so as to include an interval scale as opposed to the dichotomous scale used in the first study. The same three neutral target videos were used, and with the exceptions of the addition of the interval scale and wording changes necessitated by the change in political issue, the materials and procedure were nearly identical to those used in Pilot Study 1. Participants were first asked to report their opinion regarding the Kosovo situation. The actual wording follows:

As you are undoubtedly aware, there is a possibility that ground troops may be deployed in Kosovo. Below are some questions regarding this issue.
The participants were then given the following instructions:

We are in the process of assessing college students’ attitudes about the Kosovo conflict. We are interested in getting as many statements as possible on both sides of this issue. In order to ensure that we have a sufficient number of responses on both sides, you have been randomly chosen to write a few statements or sentences SUPPORTING (AGAINST) the use of ground troops in the Kosovo region. We realize that this may be against your actual opinion, but please do your best. Thank you.

The hypothesis was supported; with the continuous dependent variable, initial opinion had no significant impact on neutral target ratings ($F(1,40)=1.53, p>.10$) while the experimental condition was significantly related to neutral target ratings ($F(1,40)=5.41, p=.025$). Participants who wrote supportive statements were more likely to rate the neutral target as being supportive ($M=5.65, SD=1.90$) than were participants who wrote non-supportive statements ($M=4.48, SD=1.66$). Figure 4 illustrates the mean initial opinion and the mean neutral target ratings for Pilot Study 2 broken down by group. It is worth noting that a simple split of the scale at the midpoint created the dichotomous initial opinion split made for the purpose of Figure 4. Unfortunately, as in pilot study 1, cell sizes were unequal. The proposed research will attempt to avoid these cell size discrepancies by pre-selecting participants by personal attitude.
Fortunately for those native to the region, if unfortunate for the purposes of this study, the Kosovo situation was resolved (at least as far as the American media was concerned) before yoked participants were run through this experiment. Due to the resolution of the Kosovo situation, the decision was made to abort the study. Thus, the data analyzed only represents those asked to write statements. The lack of yoked participants renders it impossible to make any claims regarding the lack of a simple salience or category activation effect.

As in Pilot Study 1, an ANOVA was performed to ensure that the three different videotapes used were not differentially predictive of participant ratings. The ANOVA for ratings of neutral target guilt by videotape version across both participant conditions yielded no significant differences between the three videotapes used in this study ($F(2,48)=1.129, p=.332$).
It is worth noting that all participants in both pilot studies were fully debriefed and probed for suspicion. None of the participants expressed any clue that the two ostensibly unrelated experiments were in fact one single experiment, and although several indicated that they thought they had responded in the direction hypothesized, none reported that they had done so consciously.

Discussion

Both pilot studies offered up findings in line with the concept of autopriming. In both studies, the direction of an autoprimed attitude significantly impacted the direction of neutral target ratings, and in the first pilot study, those who were yoked to the statements generated during the autopriming procedures demonstrated no such effect.

The findings regarding Linder et al.’s (1967) no-choice condition seem to be replicated in the pilot studies, as the participants were constrained to conditions, and no attitude shifts toward facilitating attitude/behavior consistency were observed. It is also possible that the opportunity to transfer the attitude in question onto the neutral target preempted or resolved any dissonance that arose when composing counter-attitudinal arguments. This has potentially important implications for the realms of dissonance, priming, and attitude change. Further research will need to employ paradigms that can more directly test this supposition, as it is beyond the scope of the current research, though it will be briefly examined within the discussion section.

In summary, the two pilot studies offer some interesting findings, but it is quite clear that there are limitations in each study that render it necessary to not only cleanly replicate the studies, but expand upon them. The final study reported here corrects for some of the shortcomings of the two pilot studies. Specifically, participants were selected
based on reported attitude and attitude strength as reported on a pre-screening form. This insured (insomuch as possible utilizing self-report measures) an equal distribution among participant initial attitude. The attitudes on this form were less oriented toward specific events (like the Clinton impeachment and the Kosovo situation), and more focused on general recurring issues (i.e., gun control, abortion, gays in the military, etc.). This shift was due in large part to the rapid turnover of current issues in the public consciousness. As illuminated by the shortcomings of the aborted second pilot study, it seemed best to work within the context of more temporally stable political issues. The specific issue selected for the study was prayer in schools, the issue that provided the largest subject pool for the purpose of this study.

In addition to personal opinion, the screening questionnaire asked participants to report the strength and personal importance of their own attitudes on each issue. This is in recognition of the attitude-nonattitude distinction (Hovland, 1959; Converse, 1970; Fazio, 1989). The current research is intended to not only offer a replication of the two pilot studies, but by selecting participants based on attitude and attitude strength, eliminate some questions raised by the pilots.

There was also a post-task recall measure introduced in this study. If autopriming is simply a “superprime,” it is possible that the neutral target attribution effects are driven by differential salience based on the strength, rather than the source, of the prime. The recall measure examines this possibility.
Method

Participants. Participants were 104 undergraduate psychology students, who received course credit for taking part in the study. They were screened in advance for attitude and strength of attitude regarding several political issues with an attitude questionnaire (Appendix A). Participants who scored extremely high (7-9) or low (0-3) in their endorsements of prayer in schools were selected to participate in this study. Prayer in schools was chosen because the distribution of opinions was fairly evenly divided. This led to two possible attitude categories for each political issue: for and against. These participants were assigned to be writer participants or yoked participants, and were randomly assigned to either attitude-consistent or attitude-inconsistent prime conditions. There were 13 participants in each of the eight cells, for a total of 104 participants.

“Political Opinion”. Participants were brought into a room and told they would be taking part in two brief studies. They were then told that the first study was concerned with political opinion. A consent form was distributed, and participants were read instructions.

Writer vs. Yoked Conditions. Writer participants were told that in order to help the experimenter compile a list of arguments both for and against prayer in schools, they were being asked to write statements supporting one side of that issue, regardless of their own opinion. Yoked participants were given one of the aforementioned statements, and told that a fellow student was instructed to write statements supporting one side of the issue regardless of his or her own opinion. The yoked participants then filled out a questionnaire rating the quality of the arguments they had just read.
"Non-Verbal Cues". After each questionnaire was collected, the participants were told that the first study was over, and they were now to take part in a second study. A second consent form was distributed, and the participants were read instructions for this “second study.” They were told that the current research was concerned with non-verbal cues, and that in order to study how well people perceive these cues, they were to watch a segment of a videotaped interview with no sound. They were also told that in order to study the effects of non-verbal cues, they would be asked questions about the person in the video’s opinion regarding prayer in schools.

Rating of the Neutral Target. After viewing the video, each participant filled out a questionnaire rating the person in the video on prayer in schools. These questionnaires also included items assessing personal opinion and consensus estimates, facilitating later analysis of participant attitude change and consensus estimate effects of the experimental manipulation. The questionnaires were then collected.

Memory Task. In order to more fully examine possible differences between the writing and the yoked conditions, a recall measure was administered at this point. Participants were asked to write down everything they could recall from the attitude statements they were earlier primed with.

Neutral Targets. The interview tapes used in this study were the same three tapes used in the two pilot studies. No significant differences were found between these videos in either of the two pilots, and as will be reported in greater detail in the results section, none were found during the course of the current research.

Debriefing. Participants were fully debriefed and probed for suspicion regarding the true nature of the study. They were also asked if they had any insight that the two
ostensibly unrelated studies were connected to each other; none expressed skepticism regarding the laboratory procedure.

RESULTS AND DISCUSSION

In addition to the hypothesized autopriming phenomena, the possibility of priming effects, attitude transference, attitude change, memory effects, consensus effects and rater confidence were examined.

Neutral Targets

Before performing the primary analyses, an ANOVA was performed on the three videotaped neutral targets. The three neutral targets were not differentially predictive of participant ratings ($F(2,101)=.306$, $p=.737$) and were not examined in further analyses.

Attitude Consistency and Attitude Change

Attitude consistency was examined. A reliability analysis was performed comparing the attitude reported during screening and the attitude reported in the laboratory. This yielded a reliability coefficient alpha of .952; there was little change in attitude between the initial screening used to select participants and the attitude reported in the lab at the beginning of the study. The selected participants met the criteria of having a strong and constant opinion regarding PIS.

Two separate analyses were performed assessing attitude change: the first for writer participants only, and the second for Yoked participants only. Both were repeated measures ANOVA’s with valence of prime (supporting or opposing prayer in schools) and personal attitude as independent variables and pre- vs. post-manipulation self-reported attitude ratings as the repeated measure.
The writer participant analysis revealed significant within subject attitude change effects for period ($F(1,48)=38.86, p<.0005$). There was an overall writer participant attitude change from the pre-priming rating ($M=4.60$, $SD=3.48$) to the post rating ($M=5.25$, $SD=3.74$). There were also significant period interactions with valence and personal attitude ($F(1,48)=6.76$, $p=.012$, $F(1,48)=8.83$, $p=.005$, respectively). The three-way Period x Valence x Attitude interaction was not significant ($F(1,48)=.552$, $p=.461$). Tukey’s HSD on the Period x Valence interaction revealed that writer participant support of prayer in schools in both valence conditions increased from pre- to post-manipulation. Similarly, Tukey’s HSD tests on the Period x Attitude interaction revealed that writer participant support of prayer in schools in both pro and anti PIS individuals increased. This is difficult to explain in terms of the current model, but this and other effects will be examined in the general discussion section.

No within subjects attitude change was observed within yoked participants due to attitude valence ($F(1,48)=1.19$, $p=.281$), endorsement of prayer in schools ($F(1,48)=.429$, $p=.516$), or the interaction between the two ($F(1,48)=1.19$, $p=.281$).

Significant between subjects writer participant attitude differences were observed due to attitude valence ($F(1,48)=3.62$, $p=.034$) and endorsement of prayer in schools ($F(1,48)=238$, $p<.0005$); no significant interaction occurred ($F(1,48)=1.86$, $p=.167$). Writer participants who wrote statements in support of prayer in schools had lower overall endorsement of prayer in schools ($M=4.77$, $SD=3.89$) than did writer participants who wrote statements opposing prayer in schools ($M=5.08$, $SD=3.36$). This can be considered a failure of random assignment.
Significant within subjects writer participant attitude change was also observed due to statement valence ($F(1,48)=6.76, p=.012$). Writer participants who wrote supportive statements regarding prayer in schools demonstrated more attitude change than did writer participants who wrote statements against prayer in schools. Notably, this attitude change leaned toward support regardless of personal attitude.

In addition, significant within subjects writer participant attitude change was observed due to endorsement of prayer in schools ($F(1,48)=8.828, p=.005$). Writer participants who supported prayer in schools seemed to have their attitudes slightly polarized, especially when writing attitudinally consistent statements, while writer participants against prayer in schools had their attitudes drift closer to the center (especially when writing attitudinally inconsistent statements), resulting in a main effect for attitude change across personal attitude.

No significant interaction between attitude and statement valence occurred, $F(1,48)=.552, p=.461$. See Figures 5 and 6 for a visual representation of writer participant attitude change.
Figure 5. Pre- and Post-Experimental Pro-Prayer in Schools writer participant Attitudes by Valence of Prime.

Figure 6. Pre- and Post-Experimental Anti-Prayer in Schools writer participant Attitudes by Valence of Prime.
Confidence

Confidence of the neutral target rating between writer participants and yoked participants was also examined, with an exploratory hypothesis that writer participants, by virtue of the autoprime, would be more confident of their ratings than would Yoked participants. A paired samples t-test was performed, and although the trend was in the predicted direction, the confidence of the writer participants (M=6.02, SD=2.20) were only marginally significantly higher than the confidence of the yoked participants (M=5.29, SD=1.85), t(51)=1.78, p=.081.

Consensus

The possible presence of a false consensus effect was also examined. Two separate one-sample t-tests were performed on writer participant and yoked participant consensus estimates with a test value of .50. This tested the hypothesis that participants believed that more than 50% of the population agreed with their opinion. Neither writer participant (M=.523, SD=.157) nor yoked participant (M=.497, SD=.181) consensus estimates significantly differed from 50%, t(51)=1.062, p=.293; t(51)=-.139, p=.891, respectively. No false consensus effect was exhibited in this study.

Consensus change was also investigated. Repeated measures ANOVAs were performed on both writer participant and yoked participant consensus estimate change with attitude and statement valence as independent variables. There was no writer participant consensus change due to either participant attitude (F(1,48)=1.34, p=.252), statement valence (F(1,48)=1.00, p=.322), or the attitude x valence interaction (F(1,48)=1.00, p=.322). Similarly, there was no yoked participant consensus change due
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to either participant attitude ($F(1,48)=1.53$, $p=.222$), statement valence ($F(1,48)=.285$, $p=.596$), or the attitude x valence interaction ($F(1,48)=.392$, $p=.534$). There was no evidence that consensus estimates were altered by the experimental procedure. Figures 7 and 8 show the pre- and post-experimental consensus estimates made by all participants.

**Memory**

Analyses examining participant memory were conducted. First, a paired-samples T-test was performed to see if writer participant free recall of the statements they wrote was better than yoked participant free recall of the statements they read. As expected, writer participants exhibited a higher percentage of recall ($M=93.54$, $SD=11.90$) than did yoked participants ($M=84.39$, $SD=19.25$), $t(51)=2.90$, $p=.006$.

The possibility that memory would be impacted by compatibility with personal attitude was also examined. A MANOVA was performed with attitude consistency as the independent variable and writer participant and yoked participant memory as the dependent variables. A variable merging statement valence and personal attitude into a single measure of attitude consistency/inconsistency was computed for this purpose. Memory was measured as the percentage of statements correctly recalled by the participants. Whether the statement valence was attitudinally consistent or inconsistent did not significantly impact free recall of the statements by either the writer participants or the yoked participants ($F(2,49)=.039$, $p=.962$).

**Autopriming Planned Comparisons**

Planned comparisons were computed looking at the key effects predicted by the concept of autopriming. First, valence of prime by writer was looked at. Specifically, three hypotheses were tested: 1) writer participants in the positive valence condition
would rate the neutral targets (NT’s) as being more in favor of prayer in schools (PIS) than Yoked participants in the positive valence condition; 2) writer participants in the negative valence condition would rate NT’s as being less in favor of PIS than Yoked participants in the negative valence condition; and 3) writer participants in the positive valence condition would rate NT’s as being more in favor of PIS than writer participants in the negative valence condition. None of these planned comparisons were supported by the data.

Planned comparisons for four three-way interactions (writer x valence x attitude) were also performed. The only significant difference obtained indicated that writer participants who supported PIS and wrote against PIS rated the NT lower than did writer participants who supported PIS and wrote supporting PIS, $F(1,48)=11.63$, the critical value for $\alpha=05(1,48)$ was equal to 5.43.
Figure 7. Writer Participant Pre- and Post-Experimental Consensus Ratings.

Figure 8. Yoked Participant Pre- and Post-Experimental Consensus Ratings.
**Autopriming Main Analysis**

An analysis of variance (ANOVA) with repeated measures was performed, with valence of prime (supporting or opposing prayer in schools) and personal attitude as independent variables and writer ratings and yoked ratings as the repeated measure. In effect, this method treats each series of statements as a separate case, and examines the differences between writer participant and yoked participant ratings of the neutral target as a function of the effects of the priming statements. Neither between subject effects of valence of prime ($F(1,48)=.375, p=.689$), participant attitude, ($F(1,48)=.529, p=.593$), nor valence x attitude interactions ($F(1,48)=.2.877, p=.066$) were significant.

Between subject effects for writer (writer participant vs. yoked participant), writer x valence, and writer x attitude were all non-significant. However, the 3-way interaction between writer, valence, and attitude was significant ($F(1,48)=4.882, p=.032$).

A Tukey HSD was performed on the 3-way interaction, but no significant differences between the eight cell means were revealed. This may be partially due to a lack of power; as there are only 13 participants in each of the eight cells. See figures 4 and 5 for a visual representation of the eight cells.

To examine the impact of consensus estimates on the neutral target attribution, the previous analysis of variance (ANOVA) with repeated measures was again performed, but with both writer participant and yoked participant consensus estimates included as covariates. The findings of the original analysis remained unchanged by the inclusion of the two consensus covariates; the only significant effect was the 3-way (writer x valence x attitude) interaction, $F(1,46)=5.15, p=.028$. 
Similarly, the possible effect of the memory difference for writer participants and Yoked participants upon the 3-way interaction observed in the original repeated measures analysis was examined. In this model, writer participant and yoked participant memory were included as covariates, and as in the original analysis, the 3-way (writer x valence x attitude) interaction was significant ($F(1,46)=5.00, p=.030$) while no significant main effects were exhibited.
Figure 9. Writer Ratings of Neutral Targets by Participant Attitude and Statement Valence.

Figure 10. Yoked Ratings of Neutral Targets by Participant Attitude and Statement Valence.
GENERAL DISCUSSION

The first two pilot studies reported in this paper presented a phenomenon referred to as *autopriming*. Essentially, it was conjectured that without regard to personal beliefs, people would use information they generated when making social judgments, information that would have no effect on individuals simply exposed to this information. While the two pilots presented data in line with this conjecture, the final study presented herein failed to adequately support the hypothesized autopriming phenomenon. Possible problems with the design of the final study will be explored later in this discussion.

Although the results of the three studies reported here do not offer unequivocal support for the hypothesized autopriming phenomenon, there are some interesting findings worth examining. Also interesting is what was not observed - namely attitude change, simple priming effects, or attitude transference.

First of all, the results of the pilot studies indicate that something is going on in the autopriming procedure. It seems that the writer participants in the pilots (and the pro-prayer in schools writer participants in the third study) are allowing their judgments of the neutral targets to be impacted by the valence of the attitude they create. This in and of itself would appear to be supportive of priming effects a la Sherman et al. (1990). However, it was hoped that a demonstrated lack of this priming effect in the yoked conditions would offer evidence that something else was happening (specifically, autopriming). This was not the case, but even if it were, a priming argument could have been made, especially in light of the writer participants’ superior memory of the priming materials. This superior writer participant memory might be diagnostic of greater salience, leading to stronger priming effects. Perhaps, rather than a “unique cognitive
transference phenomenon,” as the title of this paper suggests, autopriming may simply be a “superprime,” or a very strong priming effect facilitated by greater salience. In other words, is there a self-love, or “own-ness” bias? Or is attitude projection simply the effects of a given attitude being highly accessible, or “hyper-available?”

This question will persist, though its relevance will not be revealed until autopriming is demonstrated to be a reliable phenomenon, assuming that eventuality unfolds.

*Attitude Change*

There was no attitude change demonstrated by writer participants constrained to write attitude-inconsistent statements. This is inconsistent with the notion of cognitive dissonance-induced attitude change (Festinger, 1957; Festinger & Carlsmith, 1959), as well as recent findings concerning the self-generation of counter-attitudinal arguments (Miller & Wosniak, 2001). Given the lack of conclusive results supporting autopriming, it is difficult (if not irrational) to explain this by referencing the initially hypothesized autopriming phenomenon. Nonetheless, if future research succeeds in replicating the two pilot studies, it might be argued that the transference of the autoprimed material alleviates cognitive dissonance in the fashion of a Freudian type of defensive projection. This is obviously highly conjectural at this stage, but even if relegated to the proverbial back burner, the idea may still simmer.

*Memory*

As mentioned earlier, writer participants remembered the priming materials better than the yoked participants. Given the extant literature on the generation effect (defined as better memory for internally generated items than for externally presented items, see
Autopriming Burns, 1990) this is not surprising, but as discussed above, it does offer a counterargument to the hypothesized autopriming effect as theorized here (if autopriming had been reliably found, that is). Specifically, the demonstrated heightened memory could in turn lead to heightened accessibility, leading to increased projection.

No memory differences based on attitudinally consistent vs. inconsistent primes were discovered. Although there has been some debate as to whether memory is facilitated by attitude consistency, the current results are in line with recent findings in the attitude and memory literature (Eagly, Chen, Chaikin, & Shaw-Barnes, 1999; Eagly, Kulesa, Brannon, Shaw, & Hutson-Comeaux, 2000).

Writers Versus Yoked Participants

The pattern of means in the final study indicated differences between writer participants and yoked participants. Although posttests revealed no reliable differences, it may be interesting to examine how participants with similar attitudes differed based on whether they were writer participants or yoked participants. As Figures 9 and 10 indicate, writer participants and yoked participants in favor of PIS did seem to respond in the hypothesized direction. Writer participants seemed to project their personal attitude when attitudinally primed. In contrast, and as might be predicted by Higgins (1996), yoked participants seemed to project their own attitude more strongly when counterattitudinally primed. The writer participants and yoked participants who were against prayer in schools exhibited an entirely different pattern. Specifically, writer participants showed neither priming nor attitude transference effects when counterattitudinally primed. Yoked participants, however, showed fairly strong simple
priming effects. More general discussion of these patterns as relates to participant attitude is presented in the next section.

Prayer In Schools

Given the hodgepodge of results reported herein, it is difficult to ignore the possibility that the nature of the specific issue being studied may have impacted the last study. The two pilot studies dealt with issues that were recent, and in all likelihood less important to the participants than prayer in school. This possible difference becomes all the more pronounced when considering that participants were selected for the final study based on attitude strength and importance.

There may also be personality differences between those who endorse conservative opinions in general and those who endorse liberal ones. This phenomenon has some precedence in recent laboratory findings. Unpublished data collected by Buckingham (1999) found that people who held liberal attitudes regarding homosexuals in the military responded differently than those who held conservative attitudes. It seems worthwhile to examine the patterns exhibited by those who endorsed liberal versus conservative attitudes.

The pattern of results for those participants who support prayer in schools was in line with the hypothesized autopriming effect (See the “left side” of Figures 9 & 10 on the preceding pages). Writer participants seemed to rate the neutral targets in line with the primed attitude, while the yoked participants showed little difference due to the valence of the prime.

However, the participants who were against prayer in schools (the “right side” of Figures 9 & 10) showed an entirely different pattern. The writer participants who were
against prayer in schools showed little effect due to statement valence, but the yoked participants who were against prayer in schools seemed to demonstrate simple priming effects a la Sherman et al. (1990). This is very difficult to explain, though it is, of course, worth repeating that these effects were not significant.

Though beyond the scope of the current research, further study might address qualitative differences between conservative and liberal attitudes and people who endorse them. Obviously, any problems introduced by such differences are likely to be compounded by the selection procedures used in the final study. Specifically, participants were selected to participate based on self-reported extreme attitudes regarding prayer in schools. Both of these issue-related possibilities should be explored in future research. For now, it does seem relatively safe to say that there are differences between those who support prayer in schools and those that do not that contributed to the pattern of results reported here. What exactly these differences are is a subject for contemplation, conjecture, and further research.

Future Research

Although the focus of the research presented here is not on the interpersonal or executive aspects of social judgment as such, it is important to keep in mind that there is an underlying assumption that interpersonal factors and choice mediate any social judgment. The current paradigm intentionally limits the role of interpersonal factors by controlling (and perhaps to some extent depersonalizing) the object of social judgment in order to investigate and examine a specific phenomenon. Future research, however, should attempt to probe the role of interpersonal situations in social judgment tasks in an attempt to increase generalizability of laboratory results.
Also, given the lack of replication, the original effect should be reproduced in a fuller design using an attitude not subject to the conservative/liberal attitude problems encountered in this study. If the autopriming effect proves replicable in such paradigms, the role of types of attitudes could be investigated with more decisiveness.

In closing, it seems likely that in its attempt to overcome all possible shortcomings of the pilot studies in one fell swoop, the final study was too ambitious. It is apparent that a more systematic exploration of autopriming is needed in order to render any conclusions justifiable. Hindsight shows that a replication of the first two pilot studies (complete with an interaction effect) should have been pursued before muddling the waters with concerns such as attitude strength and temporal stability. While the results of the final study are not especially profound, the pilot studies offer enough evidence to refrain from dismissing the idea of autopriming altogether. At this stage, evidence is still being sought to support the phenomenon, though it was hoped that the third study would accomplish this. A more cautious research design might still yield reliable autopriming effects, and if this evidence is found, the concerns voiced in this paper - and many others - will need to be addressed in fuller detail with further research.
References


Autopriming  66

The information on this form will be used to select participants for experiments this quarter. By printing your name and phone number below, you enable us to contact you with opportunities to participate in experiments. Please complete all items legibly.

Name_______________________________________ Gender (Circle one) M  F

Phone # _________________________________ Age_________

Please indicate your attitude towards the following social/political issues by circling the number on the scale provided.

Also, indicate how important each issue is to you.

**Stronger Gun Control**

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**Death Penalty**

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**Legalization of Marijuana**

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**Lowering the Drinking Age (From 21 to 18-20)**

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**Allowing Homosexuals to Serve in the Military**

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1 I offer an apology for crudely lumping priming and attitude accessibility into one category, but it is suitable for the purposes of this review to consider the two terms synonymous.

2 It should be noted that a “non-Red Sox fan” could be a follower of another team (e.g., the New York Yankees), whose inflated consensus estimates regarding the prevalence of Yankee fans could lower his or her estimate of Red Sox fan population, detrimentally impacting accuracy. For the purpose of defining the false consensus effect in this paper, I consider a non-Red Sox fan as a person with no other allegiances that might impact estimates regarding the proportion of Red Sox fans in the general population.

3 A separate repeated measures ANOVA was run on only participants who supported prayer in schools. Differences between writer participant and yoked participant neutral target ratings due to condition were only marginally significant ($F(1,24)=3.75, p=.065$).