A Biphasic Process of Resistance Among Suspects: The Mobilization and Decline of Self-Regulatory Resources

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We conducted two experiments to test whether police interrogation elicits a biphasic process of resistance from suspects. According to this process, the initial threat of police interrogation mobilizes suspects to resist interrogative influence in a manner akin to a fight or flight response, but suspects’ protracted self-regulation of their behavior during subsequent questioning increases their susceptibility to interrogative influence in the long-run. In Experiment 1 (N = 316), participants who were threatened by an accusation of misconduct exhibited responses indicative of mobilization and more strongly resisted social pressure to acquiesce to suggestive questioning than did participants who were not accused. In Experiment 2 (N = 160), self-regulatory decline that was induced during questioning about misconduct undermined participants’ ability to resist suggestive questioning. These findings support a theoretical account of the dynamic and temporal nature of suspects’ responses to police interrogation over the course of questioning.

Keywords: police interrogation, interrogative influence, self-regulation, suggestibility, stress

Interrogators in North America frequently rely on established social influence tactics advocated by police training programs, such as the Reid Technique of Interviewing and Interrogation (Inbau, Reid, Buckley, & Jayne, 2013). These tactics, which emphasize deceit, persuasion, and trickery, aim to elicit self-incriminating statements from suspects (Leo, 2008). In pursuit of this goal, interrogations can become psychological pressure cookers that impair suspects’ ability to resist interrogative influence (Davis & O’Donohue, 2004; Kassin, 2015). In this article, we consider suspects’ resistance to interrogative influence through the lens of a stress and coping framework. Specifically, we advance the idea that police interrogation initially mobilizes suspects to resist interrogative influence in a manner akin to a fight or flight response, but subsequently erodes their resistance through a process of self-regulatory decline as they continue to cope with the demands of interrogation. We investigated this biphasic process with two experiments that examined participants’ resistance to suggestive questioning under conditions of mobilization (Experiment 1) and self-regulatory decline (Experiment 2). The findings provide insight into the way that police interrogation affects suspects’ resistance to interrogation pressures.

Stress and Coping Framework

A principal theme in the stress and coping literature is that stress signals threat and supports the mobilization of coping responses. This theme is evident in Cannon’s (1915) classic fight or flight response, Selye’s (1936) pioneering theory of the stress response, and Lazarus and Folkman’s (1984) seminal model of stress and coping. It has been used to explain flashbulb memories (Brown & Kulik, 1977), and it is central to Easterbrook’s (1959) thesis that emotional arousal narrows attention. These works highlight the established view that the initial experience of stress that occurs in response to threat is an adaptive reaction that mobilizes the resources needed to support coping responses. If effective, these coping responses can resolve the threat and reduce stress.

However, effective coping does not always quickly resolve a threat and terminate the experience of stress. In fact, in some circumstances the wisest coping strategy might be to prolong the experience of stress in the service of one’s long-term goals and forego the sirens’ call of less prudent choices that offer only temporary and illusory escape. For example, an interrogated suspect might choose to deny guilt so as to lessen the chances of
conviction rather than confess in exchange for the ephemeral relief
that may come from ending the interrogation. Such a decision
reflects a wise coping strategy, but may come at a cost. According
to basic research in psychology, repeatedly overriding the impulse
to attain a short-term gain requires self-control (Muraven &
Baumeister, 2000). Because exercising self-control consumes self-
regulatory resources, repeatedly overriding the impulse to attain
a short-term gain can produce self-regulatory decline, ultimately
leading to passivity and impaired performance on subsequent acts
that require self-control (Baumeister, Bratslavsky, Muraven, &
Tice, 1998; Muraven & Baumeister, 2000).

Biphasic Process of Resistance to Interrogative Influence

Drawing on the above theoretical framework, we proposed that a
biphasic process of resistance involving the mobilization and
decline of self-regulatory resources characterizes suspects’ re-

tponses to police interrogation over the course of extended ques-
tioning. Police interrogation is a dynamic process of social influ-
ence that unfolds over time. During the early phases of a Reid-style
interrogation, police utilize a confrontational approach to question-
ing (Inbau et al., 2013; Kassin, 2005; Leo, 2008). They make
strong accusations of guilt, present suspects with real or fabricated
evidence, and refuse to accept suspects’ denials. During subse-
quent phases of questioning, police try to convince suspects that a
confession is in their best interests by minimizing their legal and

moral culpability (Inbau et al., 2013; Kassin, 2005; Leo, 2008).
They rationalize suspects’ behavior, portray their motives in sym-
pathetic terms, and downplay the seriousness of the alleged crimes
and their consequences, all the while encouraging suspects to favor
short-term gains over long-term costs. As we describe next, the
biphasic process of resistance that we have proposed maps on to
these temporally sequenced phases.

Mobilization. We posit that the threat inherent in a confronta-
tional approach to early questioning activates an acute stress
response that mobilizes suspects to cope with the demands of
interrogation, thereby causing their resistance to interrogative in-
fluence to spike (Figure 1). Because mobilization is a general
response to acute stress, its effects can be multifaceted, manifest-
ing themselves physiologically (e.g., sympathetic nervous system
activation), cognitively (e.g., narrowed attention), emotionally
(e.g., anxiety, fear) and behaviorally (e.g., self-defensive actions).
Accordingly, we propose that mobilization globally facilitates
suspects’ resistance to the pressures that operate within the inter-
rogation context. It may, for instance, help suspects combat the
effects of fatigue, track on their verbal reports to maintain consist-
ency in their statements, monitor their nonverbal behaviors, over-
come the cognitive demands associated with lying, focus their atten-
tion on their long-term interests, avoid self-incrimination, protect
themselves from the effects of misinformation, and avoid acquiescing
to suggestive questioning.

Self-regulatory decline. As police interrogation progresses
through its subsequent phases, however, suspects are put in a
position that demands protracted coping. To navigate these dem-
ands effectively, suspects must repeatedly override the impulse
to forsake long-term interests (e.g., avoid conviction) in favor of
short-term gains (e.g., end an interrogation; Davis & Leo, 2012).
Because repeatedly making this kind of decision expends self-
regulatory resources (Muraven & Baumeister, 2000), it can even-
tually result in severe fatigue, cognitive impairment, and emotional
distress. In short, continuing to cope with the strain of interroga-
tion may produce interrogation-related regulatory decline, a situ-
tationally induced response to police interrogation that is theorized
to weaken suspects’ resistance to interrogative influence (Davis &
Leo, 2012). Because a decline in self-regulatory resources is
progressive, suspects should become increasingly vulnerable to the
effects of interrogation pressures as questioning continues (Figure
1). Hence, the effects of self-regulatory decline on suspects’ re-

tistance to interrogative influence should be most apparent during
the later phases of police interrogation.

In addition, because self-regulatory decline generally impairs
performance on tasks requiring self-control (Muraven & Baumei-
ster, 2000), its effects on suspects’ behavior during these later
phases should be pervasive, affecting their cognitive, behavioral,
and emotional responses. For example, mirroring the effects of
mobilization, self-regulatory decline may cause suspects to be-
come vulnerable to the effects of fatigue, lose track of their
verbal reports leading them to produce inconsistencies in their
statements, show unrestrained nonverbal behaviors, become
overwhelmed by the cognitive demands associated with lying,
be distracted from their long-term interests, engage in self-
incrimination, succumb to the effects of misinformation, and
acquiesce to suggestive questioning.

Research Overview

The present research tested the biphasic process of resistance in
two separate experiments. In Experiment 1, we focused on the
effects of mobilization by varying the confrontational nature of the
experimental context. In Experiment 2, we focused on the effects
of self-regulatory decline by varying the expenditure of partici-
pants’ self-regulatory resources. Resistance to interrogative in-
fluence served as the dependent variable in both experiments.
Conceptually, resistance to interrogative influence includes suspect
behaviors that interfere with an interrogator’s goal of obtaining
incriminating statements. In the current research, we focused on
resistance to suggestive questioning because of its association with
narrative building, a strategy that can form the basis of a persuas-
ive confession (Leo, 2008). For instance, an interrogator may ask
leading questions to pressure a suspect to accept or confirm a
particular version of events. The suspect would be exhibiting
resistance if she or he refused to yield to the suggestion inherent in
the leading questions.

Figure 1. Biphasic process of resistance.
We operationalized resistance to suggestive questioning with the Gudjonsson Suggestibility Scales (GSS; Gudjonsson, 1984, 1987), which measure interrogative suggestibility—the degree to which people acquiesce to leading questions and succumb to interpersonal pressure during formal questioning (Gudjonsson & Clark, 1986; Mastroberardino & Marucci, 2013). Research supports the validity of the GSS as a measure of resistance to interrogative influence. Specifically, GSS scores have been shown to predict coerced and voluntary false confessions in laboratory experiments (Klaver, Lee, & Rose, 2008; Redlich & Goodman, 2003), to distinguish confessors from nonconfessors among defendants (Gudjonsson, 1990, 1991), and to correlate with self-reported internalized false confessions and compliance among prison inmates (Sigurdsson & Gudjonsson, 1996).

**Experiment 1**

Experiment 1 tested whether the initial experience of threat that occurs during the early, confrontational phase of police interrogation mobilizes suspects to resist interrogative influence. Because prior research has established that innocent suspects are less threatened by police interrogation than guilty suspects (Guyll et al., 2013; Kassin, 2005), Experiment 1 also examined whether guilt-status moderates the effect of mobilization on suspects’ resistance. Using a modified version of the cheating paradigm (Russano, Meissner, Narchet, & Kassin, 2005), participants engaged in either misconduct or appropriate behavior after which an experimenter accused some participants, but not others, of cheating. Participants subsequently had their resistance to interrogative influence assessed with the GSS.

**Experiment 2**

Experiment 2 tested whether a decline in self-regulatory resources that accompanies protracted interrogation weakens suspects’ resistance to interrogative influence. Using the repetitive question paradigm (Madon, Guyll, Scherr, Greathouse, & Wells, 2012), participants responded to 20 interview questions about their prior criminal and unethical behaviors. Some participants, but not others, responded to these questions under the condition of a contingency pairing that required them to repeatedly override the impulse to attain a short-term gain (i.e., avoid repetitive questions) at the expense of their long-term interests (i.e., meet with a police officer in several weeks to discuss their interview responses in more detail). Following the interview, all participants had their resistance to interrogative influence assessed with the GSS.

**Method**

Participants. University students (N = 355) participated in the experiment to satisfy a course requirement. Fifteen participants refused to engage in misconduct, five were suspicious, four had prior knowledge about the experiment, nine had their data compromised by procedural errors, and six had their session terminated. The terminations occurred for a variety of reasons. One occurred because the participant exhibited a higher degree of distress than was anticipated. The remaining five terminations were unrelated to the procedures of the experiment (e.g., participant had a competing appointment). Therefore, there were 316 participants in the final sample, including 167 women and 149 men. There were 16 African Americans, 9 Asian Americans, 1 Asian-Indian American, 267 European Americans, 2 Native Americans, 7 participants who self-identified as multiethnic, and 14 who self-described as “other.” All participants were native English speakers.

**Design.** Participants were randomly assigned to a 2 (guilt: guilty vs. innocent) × 2 (accusation: accused vs. not accused) between-subjects experimental design. To manipulate guilt, an experimenter paired each participant with a confederate and instructed the pair to solve four logic problems, two independently and two jointly. In the guilty condition (n = 153), the confederate persuaded the participant to share answers on an individual problem, thus making the participant guilty of misconduct. In the innocent condition (n = 163), the confederate and participant followed the experimenter’s instructions correctly, thereby making the participant innocent of misconduct. Afterward, the experimenter, who was blind to the guilt manipulation, accused some participants (n = 155), but not others (n = 161), of cheating on the logic problems.

**Measures.**

**Gudjonsson Suggestibility Scales.** We assessed resistance to interrogative influence with the parallel form of the GSS (GSS 2; Gudjonsson, 2009), which also includes the original form (GSS 1; Gudjonsson, 1984, 1987) that we used in Experiment 2. These scales were developed for research and clinical–forensic applications. Extensive evaluation of the scales has revealed that they possess strong psychometric properties (Clare, Gudjonsson, Rutter, & Cross, 1994; Grisso, 1986; Gudjonsson, 1984, 1992, 2003; Richardson & Smith, 1993).

Participants in the present experiment were read aloud a short story about a boy on a runaway bicycle that was immediately followed by a free-recall memory task and then two phases of questioning. Because of time constraints, we omitted the standard 50-min delay between administration of these tasks. The omission of this delay corresponds to an alternative procedure of the GSS (Gudjonsson, 2009) that has been empirically shown to produce suggestibility scores that do not differ from those produced by the standard administration procedure (Smeets, Leppink, Jelicic, & Merckelbach, 2009). Each phase of questioning included the same 20 questions, 15 of which are leading because they are suggestive in nature and encourage particular responses. The two phases of questioning are distinguished by negative feedback. Immediately after the first phase of questioning, participants were firmly told “You have made a number of errors. It is therefore necessary to go through the questions once more, and this time try to be more accurate.” We used responses to the leading questions in Phase 1 and Phase 2 to calculate participants’ suggestibility and used responses from the free-recall task to calculate participants’ memory for the story’s content.

**Suggestibility.** We calculated three suggestibility scores: Yield 1, Yield 2, and Shift (Gudjonsson, 2009). Although all three scores reflect the effects of suggestive questioning, researchers have established that different suggestive processes underlie the scores. Because Yield 1 is assessed prior to the interpersonal pressure inherent in the provision of the negative feedback, the predominant suggestive process is internalization (Mastroberardino & Marucci,
or partially correctly (Clare et al., 1994). Scoring errors were
point for each distinct idea that participants recalled incompletely
idea that participants recalled completely and correctly and a half
the experimental conditions, awarded one point for each distinct
mended scoring procedures, trained coders, who were kept blind to
response to interrogation pressures.

We calculated Yield 1 and Yield 2 by summing the number of
times that participants gave the suggested response to a leading
question during the first (Yield 1) and second (Yield 2) phases of
questioning. Yield scores could range from 0 to 15. We calculated
Shift by summing the number of times that participants gave a
distinctly different answer to the same question across the two
phases of questioning. Shift scores could range from 0 to 20. For
all three scores, greater values indicated greater suggestibility
and thus inversely indexed resistance. To minimize scoring errors, two
coders, who were kept blind to the experimental conditions, inde-
pendently scored participants’ responses to the leading questions,
after which they performed a side-by-side comparison to identify
and correct scoring errors.

Memory. To facilitate accurate scoring of memory, partici-
pants provided a written account of the story’s content, which
includes 40 distinct ideas (Gudjonsson, 2009). Using recom-
manded scoring procedures, trained coders, who were kept blind to
the experimental conditions, awarded one point for each distinct
idea that participants recalled completely and correctly and a half
point for each distinct idea that participants recalled incompletely
or partially correctly (Clare et al., 1994). Scoring errors were
minimized by using the same scoring procedures as described
above for suggestibility.

American College Test (ACT). We accounted for the associ-
ation between intelligence and suggestibility (Pollard et al., 2004;
Richardson & Kelly, 1994; Singh & Gudjonsson, 1992; Søndena,
Rasmussen, Palmstierna, & Nøttetad, 2010) by using participants’
self-reported composite ACT scores. Using ACT as a proxy for
intelligence is supported by its strong, positive correlation with IQ
(Koenig, Frey, & Detterman, 2008).

Manipulation check. We examined whether the accusation
manipulation effectively varied mobilization by assessing partici-
ants’ physiological activity at baseline and during the accusation
manipulation. Both phases lasted 5 min and included three assess-
ments of systolic blood pressure, diastolic blood pressure (SBP,
DBP in mmHg), heart rate (HR in beats per min; bpm), respiratory
sinus arrhythmia (RSA), and pre-ejection period (PEP). Both RSA
and PEP inversely index autonomic arousal. Readers are referred
to Guyll et al. (2013) for specific details about these physiological
variables, the physiological instrumentation, signal acquisition,
and data processing.

Procedures. Participants were run individually. The experi-
mental session required approximately 1.5 hr to complete. After
obtaining informed consent, the experimenter paired the partici-
ant with a confederate who posed as another participant in the
study. To justify the physiological measures and reduce suspicion,
the experimenter described the study as an examination of stress
on physiological activity that would be investigated by having the
participants solve logic problems of varying difficulty. Following
the cover story, the pair moved to separate rooms at which point
the participant privately reported demographic information and
ACT scores while the confederate randomly determined the guilt
condition to which the participant would be assigned, thus keeping
the experimenter blind to the guilt manipulation.

Next, the pair was reunited and engaged in a 3-min get-
aquainted exercise (Russano et al., 2005) that enabled the con-
federate to build rapport with the participant so as to increase the
likelihood that participants in the guilty condition would comply
with the confederate’s later request to cheat. Afterward, a rigged
procedure identified the participant as the individual whose phys-
iological activity would be assessed, at which point the confederate
exited the room, and the experimenter applied electrodes and a
blood pressure cuff to the participant. An unseen technician in an
adjacent room remotely acquired physiological measures while the
participant relaxed alone for the 5-min baseline period.

Subsequently, the experimenter and confederate returned and
the experimenter explained the logic-problem task, making it clear
that the pair should work alone on problems designated as indi-
vidual problems, and jointly on problems designated as team
problems. The pair worked on the logic problems in private during
which time the confederate delivered the guilt manipulation. In the
guilty condition, the confederate broke the stated rules of the
experiment by requesting the participant’s help in solving the final
individual problem, thus eliciting misconduct from the participant.
In the innocent condition, the confederate adhered to the stated
rules of the experiment, thus not eliciting misconduct from the
participant. After completing the logic-problem task, the experi-
mener collected the logic problems, distributed a filler survey that
assessed participants’ perceptions of their partner, and then exited
the room for the alleged purpose of scoring the pair’s answers to
the logic problems.

Upon returning, the experimenter executed the accusation ma-
nipulation while physiological measures were recorded for 5 min.
In the accusation conditions, the experimenter stated that a prob-
lem had arisen and escorted the confederate out of the room for
questioning. The experimenter returned to the participant 3 min
later and recited a memorized script adapted from Russano et al.
(2005) that accused the participant of sharing answers with the
partner on an individual problem. The experimenter indicated that
the professor in charge of the study had been informed about the
incident and stated that he was angry and upset by what happened.
The experimenter expressed uncertainty regarding how the profes-
sor would handle the situation, whether it might be necessary to
involve university officials, and noted that the professor might
even consider the incident to be a case of cheating. After reciting
the script, the experimenter exited the room under the guise of
having to call the professor to find out how to proceed. In the
no-accusation conditions, the experimenter also indicated that a
problem had arisen and subsequently separated the pair, but de-
scribed the separation as routine. Moreover, the script that the
experimenter recited in these conditions was similar in length to
the accusation script and contained many of the same key phrases
(e.g., problem, called my professor), but made no mention of
misconduct. Instead, the experimenter indicated that a problem had
arisen with the next survey requiring a call to the professor in
charge of the study to find out how to proceed. The experimenter
exited the room under the guise of having to make new copies of
the survey to correct the problem.

The experimenter, who was naïve to the hypothesis, returned to
administer the suggestibility scale 2 min later, which corresponded
to the completion of the 5-min physiological phase. In the accusation conditions, administration of the scale was prefaced with an update on the professor’s response to the situation. Specifically, the experimenter informed participants in the accusation conditions that the professor wanted to speak with them personally about the cheating incident, but that he was currently speaking with the partner and wanted them to continue with the experiment until he was ready. This information was imparted to lessen the chances that the state of mobilization that had been created by the accusation had waned in the minutes that intervened between the accusation manipulation and assessment of suggestibility. No such statement was made to participants in the no-accusation conditions. Debriefing followed completion of the suggestibility scale.

Results

Preliminary analyses.

Descriptive statistics. Table 1 presents the means, standard errors, and confidence intervals for Yield 1, Yield 2, Shift, and memory, organized by experimental condition. Table 2 presents the correlations between the variables.

Effect sizes. We report effect sizes in terms of Cohen’s $d$. We calculated Cohen’s $d$ and the corresponding confidence intervals with a script developed by Wuensch (2012).

Validity of memory scores. As reported in Table 2, participants’ memory for the story’s content correlated positively with ACT scores and negatively with the measures of suggestibility, thus supporting the validity of the memory measure.

Manipulation check. To test the effectiveness of the accusation manipulation to vary mobilization, we effect-coded guilt and accusation and performed latent growth-curve analyses of the three accusation phase assessments, controlling for baseline physiology. Because of software failure, the acquisition of RSA and PEP was limited to 299 and 295 participants, respectively. Results indicated that the accusation caused stress-related physiological reactivity indicative of mobilization as revealed by its effects on the intercepts for SBP, $b = 7.72$ mmHg, 95% CI = [6.74, 8.70], $t(311) = 15.45, p < .001, d = 2.00$, DBP, $b = 2.52$ mmHg, 95% CI = [3.98, 5.06], $t(311) = 16.43, p < .001, d = 1.74$, HR, $b = 0.21$ bpm, 95% CI = [0.15, 0.28], $t(311) = 2.26, p = .024, d = 0.25$, and PEP, $b = 0.24$, 95% CI = [0.17, 0.31], $t(294) = 3.54, p < .001, d = 0.40$, 95% CI = [0.17, 0.62]; and PEP, $b = 0.24$, 95% CI = [0.17, 0.50], $t(290) = 5.96, p < .001, d = 0.67$, 95% CI = [0.44, 0.90]. These results indicate that the accusation manipulation effectively varied mobilization.

In addition, though guilt evidenced a significant main effect on DBP, $b = 0.55$ mmHg, 95% CI = [0.02, 1.09], $t(311) = 2.03, p = .043, d = 0.23$, 95% CI = [0.00, 0.45], it did not significantly influence the other four physiological measures, $p_s \geq .08$. Furthermore, replicating previous research (Guyll et al., 2013), and consistent with the phenomenology of innocence (Kassin, 2005), innocent participants showed less physiological reactivity when accused than did guilty participants, as indicated by interactions between guilt and accusation on the intercepts for SBP, $b = 1.12$ mmHg, 95% CI = [0.15, 2.08], $t(311) = 2.26, p = .024, d = 0.25$, 95% CI = [0.03, 0.48]; DBP, $b = 0.68$ mmHg, 95% CI = [0.14, 1.22], $t(311) = 2.47, p = .014, d = 0.28$, 95% CI = [0.05, 0.50], and; HR, $b = 2.25$ bpm, 95% CI = [0.57, 3.93], $t(311) = 2.63, p = .009, d = 0.30$, 95% CI = [0.07, 0.51].

Main analyses.

Resistance to interrogative influence. According to the hypothesized biphasic process of resistance, the threat inherent in the early, confrontational phase of police interrogation mobilizes suspects to resist interrogative influence. We tested this process by effect-coding guilt and accusation and examining their influence on participants’ resistance, which we operationalized with the three measures of suggestibility (i.e., Yield 1, Yield 2, Shift). We included mean-centered ACT scores as a covariate. Table 3 presents the full set of results. As reported there, guilt significantly influenced Yield 1 such that guilty participants exhibited greater suggestibility ($M_{\text{Guilty}} = 5.64, SE = 0.24$) than did innocent participants ($M_{\text{Innocent}} = 4.86, SE = 0.24$). Guilt did not significantly influence Yield 2 ($M_{\text{Guilty}} = 6.80, SE = 0.30$ vs. $M_{\text{Innocent}} = 6.28, SE = 0.29$) or Shift ($M_{\text{Guilty}} = 4.02, SE = 0.21$ vs. $M_{\text{Innocent}} = 3.85, SE = 0.21$). Accusation did not significantly influence Yield 1 ($M_{\text{Accused}} = 5.08, SE = 0.24$ vs. $M_{\text{Not-accused}} = 5.41, SE = 0.24$), but did significantly influence Yield 2 and Shift. Specifically, as shown in Figure 2, accused participants exhibited less suggestibility than did participants who were not accused on both Yield 2 ($M_{\text{Accused}} = 6.03, SE = 0.30$ vs. $M_{\text{Not-accused}} = 7.06, SE = 0.29$) and Shift ($M_{\text{Accused}} = 3.42, SE = 0.21$ vs. $M_{\text{Not-accused}} = 4.46, SE = 0.21$). The interaction between guilt and accusation never achieved significance, indicating that innocent participants, though less physiologically reactive to the accusation than guilty participants, were similarly resistant. The covariate of ACT scores

Table 1

<table>
<thead>
<tr>
<th>Experimental condition</th>
<th>Yield 1 M (SE)</th>
<th>95% CI</th>
<th>Yield 2 M (SE)</th>
<th>95% CI</th>
<th>Shift M (SE)</th>
<th>95% CI</th>
<th>Memory M (SE)</th>
<th>95% CI</th>
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<tbody>
<tr>
<td>Accused</td>
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<tr>
<td>Guilty</td>
<td>5.56 (0.35)</td>
<td>4.88, 6.25</td>
<td>6.41 (0.43)</td>
<td>5.56, 7.25</td>
<td>3.36 (0.31)</td>
<td>2.76, 3.96</td>
<td>14.80 (0.56)</td>
<td>13.70, 15.89</td>
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<tr>
<td>Innocent</td>
<td>4.60 (0.33)</td>
<td>3.96, 5.25</td>
<td>5.65 (0.41)</td>
<td>4.85, 6.45</td>
<td>3.48 (0.29)</td>
<td>2.92, 4.05</td>
<td>15.68 (0.55)</td>
<td>14.52, 16.64</td>
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<td>Not accused</td>
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<tr>
<td>Guilty</td>
<td>5.71 (0.33)</td>
<td>5.06, 6.37</td>
<td>7.20 (0.41)</td>
<td>6.39, 8.01</td>
<td>4.69 (0.29)</td>
<td>4.11, 5.26</td>
<td>15.58 (0.54)</td>
<td>14.65, 16.71</td>
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<tr>
<td>Innocent</td>
<td>5.12 (0.33)</td>
<td>4.47, 5.76</td>
<td>6.91 (0.41)</td>
<td>6.11, 7.72</td>
<td>4.23 (0.29)</td>
<td>3.65, 4.80</td>
<td>16.44 (0.55)</td>
<td>15.36, 17.53</td>
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Note. Values adjusted for American College Test (ACT) scores.

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were effect-coded (guilty = +1, innocent = −1; accused = +1, not accused = −1). If this happened, then the effect of the accusation on suggestibility may have been due to differences in participants’ initial memory for the story, and stress sometimes improves performance (Easterbrook, 1959), it was possible that accused participants were at an encoding advantage relative to participants who were not accused. If this happened, then the effect of the accusation on suggestibility may have been due to differences in participants’ initial memory for the story that was presented as part of the suggestibility scale rather than to differences in their resistance to interrogative influence. However, results of follow-up analyses provided no support for this interpretation. The accusation manipulation did not significantly influence memory, b = −0.39, 95% CI = [−0.91, 0.14], t = 1.43, p = .152, d = 0.16, 95% CI = [−0.06, 0.38] nor, parenthetically, did either the guilt manipulation or the Guilt × Accusation interaction, b = −0.44, CI = [−0.97, 0.09], t = 1.63, p = .104, d = 0.18, 95% CI = [−0.04, 0.40] and b = −0.005, 95% CI = [−0.53, 0.52], t = 0.02, p = .986, d = 0.002, 95% CI = [−0.09, 0.09], respectively. We further investigated memory as a mediating variable in the context of a path model, but in no case did memory convey a significant indirect effect of any experiemen-

**Table 2**

**Experiment 1: Correlations (N = 316)**

<table>
<thead>
<tr>
<th>Variables</th>
<th>1</th>
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<tbody>
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<td>1. ACT scores</td>
<td>−.02</td>
<td>.05</td>
<td>−.16***</td>
<td>−.18***</td>
<td>−.20***</td>
<td>.24***</td>
<td>−.09</td>
<td>−.08</td>
<td>−.04</td>
<td>.03</td>
<td>.01</td>
<td></td>
</tr>
<tr>
<td>2. Guilt manipulation</td>
<td>.03</td>
<td>.13</td>
<td>.08</td>
<td>.04</td>
<td>.09</td>
<td>.07</td>
<td>.07</td>
<td>.08</td>
<td>.06</td>
<td>.01</td>
<td></td>
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</tr>
<tr>
<td>3. Accusation manipulation</td>
<td>−.07</td>
<td>−.15***</td>
<td>−.20***</td>
<td>−.06</td>
<td>.44***</td>
<td>.47***</td>
<td>.34***</td>
<td>−.02</td>
<td>−.27***</td>
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</tr>
<tr>
<td>4. Yield 1</td>
<td>.76***</td>
<td>.40***</td>
<td>−.28***</td>
<td>.03</td>
<td>.08</td>
<td>.12*</td>
<td>−.11*</td>
<td>.01</td>
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</tr>
<tr>
<td>5. Yield 2</td>
<td>.62***</td>
<td>−.30***</td>
<td>−.02</td>
<td>.03</td>
<td>.03</td>
<td>.05</td>
<td>.10</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>6. Shift</td>
<td>−.15**</td>
<td>−.11*</td>
<td>−.09</td>
<td>−.04</td>
<td>.02</td>
<td>−.04</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>7. Memory</td>
<td>−.15**</td>
<td>−.07</td>
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<td>.07</td>
<td></td>
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<tr>
<td>8. Systolic blood pressure</td>
<td>.78***</td>
<td>.34***</td>
<td>−.15**</td>
<td>−.27***</td>
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</tr>
<tr>
<td>9. Diastolic blood pressure</td>
<td>.49***</td>
<td>−.28***</td>
<td>−.22***</td>
<td></td>
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<td></td>
<td></td>
<td></td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>10. Heart rate</td>
<td>−.56***</td>
<td>−.20***</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>11. RSA</td>
<td>.03</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. PEP</td>
<td>M</td>
<td>23.99</td>
<td>.48</td>
<td>.49</td>
<td>5.24</td>
<td>6.54</td>
<td>3.95</td>
<td>15.63</td>
<td>120.47</td>
<td>76.47</td>
<td>77.86</td>
<td>6.65</td>
</tr>
<tr>
<td></td>
<td>SD</td>
<td>3.59</td>
<td>.50</td>
<td>.50</td>
<td>3.06</td>
<td>3.80</td>
<td>2.74</td>
<td>4.90</td>
<td>13.32</td>
<td>6.99</td>
<td>14.02</td>
<td>1.00</td>
</tr>
</tbody>
</table>

**Note.** ACT = American College Test; RSA = respiratory sinus arrhythmia; PEP = pre-ejection period. All physiologic measures correspond to those taken during the accusation phase of the experiment, with each of their values equal to the average of the three accusation-phase readings. Manipulations were effect-coded (guilty = +1, innocent = −1; accused = +1, not accused = −1).

*p < .05. **p < .01. ***p < .001.

significantly predicted Yield 1, Yield 2, and Shift, with higher ACT scores predicting lower suggestibility for all three measures. **Memory.** Having demonstrated that accused participants were more resistant to the effects of suggestive questioning than participants who were not accused, we next examined the extent to which participants’ memory for the story’s content may have contributed to this effect. Because accused participants in our research were under stress at the time that they listened to the story, and stress sometimes improves performance (Easterbrook, 1959), it was possible that accused participants were at an encoding advantage relative to participants who were not accused. If this happened, then the effect of the accusation on suggestibility may have been due to differences in participants’ initial memory for the story.

**Table 3**

**Experiment 1: Suggestibility Results (N = 316)**

<table>
<thead>
<tr>
<th>Variables</th>
<th>b</th>
<th>95% CI</th>
<th>t</th>
<th>p</th>
<th>d</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yield 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>5.25</td>
<td>4.92, 5.58</td>
<td>.64</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACT scores</td>
<td>−0.13</td>
<td>−0.22, −0.04</td>
<td>2.83</td>
<td>.005</td>
<td>.32</td>
<td>0.10, 0.54</td>
</tr>
<tr>
<td>Guilt</td>
<td>0.39</td>
<td>0.06, 0.72</td>
<td>2.32</td>
<td>.020</td>
<td>.26</td>
<td>0.04, 0.48</td>
</tr>
<tr>
<td>Accusation</td>
<td>−0.17</td>
<td>−0.50, 0.16</td>
<td>0.98</td>
<td>.325</td>
<td>.11</td>
<td>−0.11, 0.33</td>
</tr>
<tr>
<td>Guilt × Accusation</td>
<td>0.09</td>
<td>−0.24, 0.42</td>
<td>0.54</td>
<td>.590</td>
<td>.06</td>
<td>−0.16, 0.28</td>
</tr>
<tr>
<td>Yield 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>6.54</td>
<td>6.14, 6.95</td>
<td>3.15</td>
<td>.002</td>
<td>.35</td>
<td>0.13, 0.58</td>
</tr>
<tr>
<td>ACT scores</td>
<td>−0.18</td>
<td>−0.30, −0.07</td>
<td>1.25</td>
<td>.211</td>
<td>.14</td>
<td>−0.08, 0.36</td>
</tr>
<tr>
<td>Guilt</td>
<td>0.26</td>
<td>−0.15, 0.67</td>
<td>2.48</td>
<td>.013</td>
<td>.28</td>
<td>0.57, 0.50</td>
</tr>
<tr>
<td>Accusation</td>
<td>−0.51</td>
<td>−0.92, −0.11</td>
<td>0.56</td>
<td>.572</td>
<td>.06</td>
<td>−0.16, 0.28</td>
</tr>
<tr>
<td>Guilt × Accusation</td>
<td>0.12</td>
<td>−0.29, 0.52</td>
<td>0.56</td>
<td>.323</td>
<td>0.11</td>
<td>−0.11, 0.33</td>
</tr>
</tbody>
</table>

**Note.** df = 311. ACT = American College Test. ACT scores were mean-centered. Manipulations were effect-coded (guilty = +1, innocent = −1; accused = +1, not accused = −1). Cohen’s d and the corresponding confidence intervals were calculated with a script developed by Wuensch (2012). Yield 1, Yield 2, and Shift are dependent variables.
manipulation on suggestibility. The failure to obtain the latter mobilization response could have increased cognitive arousal and cognition manipulation would have improved memory on grounds that the GSS memory score is not a measure of suggestibility. On the other hand, one might have predicted that the accusation did not influence participants’ memory for the story. On the one hand, this nonsignificant finding might have been predicted on grounds that the GSS memory score is not a measure of suggestibility. On the other hand, one might have predicted that the accusation manipulation would have improved memory on grounds that the mobilization response could have increased cognitive arousal and performance (Easterbrook, 1959). The failure to obtain the latter effect might have occurred because individuals under stress tend to direct their cognitive resources to information and events that are directly relevant to the threat they face (Chajut & Algom, 2003; Derryberry & Tucker, 1994; Easterbrook, 1959; Watts, McKenna, Sharrock, & Trezise, 1986), and the story about which participants were questioned was not relevant to the threat inherent in the accusation of cheating.

With respect to the guilt manipulation, the only effect to emerge was that guilty participants showed greater suggestibility on Yield 1 than did innocent participants. Although we can only offer post hoc speculation, this effect may have occurred because guilty participants were motivated to engage in reparative action during the assessment of Yield 1, whereas innocent participants were not. Because Yield 1 was assessed in the absence of interpersonal pressure, the strongest motive influencing the behavior of guilty participants at this point in the study may have been the motive to make amends with the experimenter for their past transgression, which they accomplished by acquiescing to the leading questions. It seems unlikely that this motive operated among innocent participants because they had not transgressed and, therefore, had no reason to make amends. Thus, at the time Yield 1 was measured, different motives may have been operating for guilty and innocent participants, explaining the difference in their Yield 1 scores. By the time Yield 2 and Shift were measured, however, the situation had changed. Guilty participants had already engaged in reparative action and were now, just like innocent participants, dealing with the interpersonal pressure inherent in the negative feedback. Hence, at the time Yield 2 and Shift were assessed, the situation confronting guilty and innocent participants had become more similar than it had been during the assessment of Yield 1, which could explain why their Yield 2 and Shift scores did not significantly differ.

Overall, the results of Experiment 1 provide evidence that the confrontational approach to questioning that typically characterizes the early phases of a Reid-style interrogation can mobilize suspects to resist interrogation pressure, thus supporting the first half of the hypothesized biphasic process of resistance. We performed Experiment 2 to test the second half of the process.

**Experiment 2**

**Method**

**Participants.** University students (N = 165) participated to satisfy a course requirement. One participant was suspicious and four failed to follow instructions. The final sample, therefore, consisted of 160 participants. There were 96 women and 64 men in the final sample, including 4 African Americans, 2 Asian Americans, 141 European Americans, 4 Latina/os, and 9 participants who self-described as multiethnic. All participants were native English speakers.

**Design.** We used the repetitive question paradigm (Madon et al., 2012) with a two-cell design to manipulate self-regulatory decline. As part of an interview, participants admitted or denied 20 criminal and unethical behaviors under one of two conditions. In the depleting condition (n = 79), participants answered a set of 32 repetitive questions every time they denied a behavior. They could avoid the repetitive questions by admitting to a behavior, but believed that doing so increased their risk of having to meet with a police officer in the future to discuss their interview responses in more detail. Accordingly, participants in this condition had their self-regulatory resources diminished by repeatedly having to choose between admitting guilt to attain a short-term gain (i.e.,
avoiding the repetitive questions) and denying guilt to protect their long-term interests (i.e., avoiding the future meeting with the police officer). To preserve the self-regulatory resources of participants in the non-depleting condition \( n = 81 \), their interview responses entailed no consequences—they neither answered repetitive questions nor expected to meet with a police officer.

**Measures.**

**Suggestibility.** We used the original form of the GSS (GSS 1; Gudjonsson, 1984) modified for an American sample (Warren, Hulse-Trotter, & Tubbs, 1991) to assess resistance to interrogative influence. This scale is similar to the one used in Experiment 1 except that the story and questions pertain to a mugging. The scale was administered and scored with the same procedures as described in Experiment 1 and produced the same four variables (i.e., Yield 1, Yield 2, Shift, and Memory).

**ACT scores.** We used self-reported ACT scores as an indicator of intelligence to analytically control for the association between intelligence and suggestibility (Pollard et al., 2004; Richardson & Kelly, 1994; Singh & Gudjonsson, 1992; Søndenaa et al., 2010).

**Manipulation check.** Using 5-point scales \( (1 = \text{not at all}; 5 = \text{extremely}) \), participants twice completed the Profile of Mood States—Short Form (Shacham, 1983), which includes six subscales: Depression, Vigor, Confusion, Tension, Anger, and Fatigue. At baseline, participants reported their current mood. After completing the suggestibility measure, participants retrospectively reported what their mood had been immediately following the interview. Because of the association between fatigue and self-regulatory decline (Hagger, Kelly, 1994; Singh & Gudjonsson, 1992; Søndenaa et al., 2010).

**Procedure.** Participants were run individually. The experimental session required approximately 2.5 hr to complete in the depleting condition and 1.5 hr to complete in the non-depleting condition. After obtaining informed consent, the experimenter described the study as investigating criminal behavior among college students. Participants then privately reported demographic information and completed the mood scale at baseline, after which the experimenter introduced the interview and explained to participants in the depleting condition the contingencies associated with their responses using a script developed by Wuensch (2012).

**Results.**

**Preliminary analyses.**

**Descriptive statistics.** Table 4 presents the means, standard errors, and confidence intervals for Yield 1, Yield 2, Shift, and memory, organized by experimental condition. Table 5 presents the correlations between the variables.

**Effect sizes.** We report effect sizes in terms of Cohen’s \( d \). We calculated Cohen’s \( d \) and the corresponding confidence intervals with a script developed by Wuensch (2012).

**Validity of memory scores.** Participants’ memory for the story’s content correlated positively with ACT scores and negatively with the measures of suggestibility (see Table 5), thus supporting the validity of the memory measure.

**Mood.** As a check of the manipulation, we compared post-interview fatigue across the depleting and non-depleting conditions using effect-coding and controlling for baseline fatigue. The results supported the manipulation’s effectiveness by showing that participants in the depleting condition reported greater post-interview fatigue (\( M = 2.26 \)) than did participants in the non-depleting condition \( (M = 1.63) \), \( b = 0.32, 95\% \text{ CI} = [0.21, 0.43], t(157) = 5.73, p < .001, d = 0.91, 95\% \text{ CI} = [0.58, 1.23] \). Parallel analyses that examined responses to the other mood scales showed that participants in the depleting condition also reported significantly greater post-interview depression, tension, and anger, \( bs \geq 1.63 \).

<table>
<thead>
<tr>
<th>Experimental condition</th>
<th>Yield 1</th>
<th>Yield 2</th>
<th>Shift</th>
<th>Memory</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( M (SE) )</td>
<td>( M (SE) )</td>
<td>( M (SE) )</td>
<td>( M (SE) )</td>
</tr>
<tr>
<td></td>
<td>95% CI</td>
<td>95% CI</td>
<td>95% CI</td>
<td>95% CI</td>
</tr>
<tr>
<td>Depleting</td>
<td>5.52 (0.32)</td>
<td>4.90, 6.14</td>
<td>7.80 (0.39)</td>
<td>7.04, 8.55</td>
</tr>
<tr>
<td></td>
<td>5.81 (0.34)</td>
<td>5.14, 6.48</td>
<td>16.88 (0.58)</td>
<td>15.74, 18.02</td>
</tr>
<tr>
<td>Non-depleting</td>
<td>4.94 (0.31)</td>
<td>4.33, 5.55</td>
<td>6.41 (0.38)</td>
<td>5.66, 7.16</td>
</tr>
<tr>
<td></td>
<td>4.86 (0.34)</td>
<td>4.20, 5.52</td>
<td>17.88 (0.60)</td>
<td>16.69, 19.07</td>
</tr>
</tbody>
</table>

*Note.* Values adjusted for American College Test (ACT) scores.
Table 5
Experiment 2: Correlations (N = 160)

<table>
<thead>
<tr>
<th>Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACT Scores</td>
<td>-.05</td>
<td>-.13</td>
<td>-.10</td>
<td>-.17*</td>
<td>.32***</td>
<td>.15</td>
<td></td>
</tr>
<tr>
<td>Depleting</td>
<td></td>
<td>.11</td>
<td>.20*</td>
<td>.16**</td>
<td>-.12</td>
<td>.31***</td>
<td></td>
</tr>
<tr>
<td>Yield 1</td>
<td>.60***</td>
<td>.28***</td>
<td>-.41***</td>
<td>.13</td>
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<tr>
<td>Yield 2</td>
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<td>-.35**</td>
<td>.19*</td>
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<tr>
<td>Shift</td>
<td>-.24**</td>
<td>.02</td>
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<tr>
<td>Memory</td>
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<td></td>
<td></td>
<td>-.11</td>
</tr>
<tr>
<td>Fatigue</td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>24.34</td>
<td>.49</td>
<td>5.23</td>
<td>7.09</td>
<td>5.33</td>
<td>17.35</td>
<td>1.94</td>
</tr>
<tr>
<td>SD</td>
<td>3.71</td>
<td>.50</td>
<td>2.86</td>
<td>3.53</td>
<td>3.13</td>
<td>5.39</td>
<td>.83</td>
</tr>
</tbody>
</table>

Note. ACT = American College Test. Depleting manipulation was effect-coded (depleting = +1, non-depleting = -1). Fatigue corresponds to self-reported post-interview fatigue.

0.07, ts(157) ≥ 2.24, ps ≤ .025, ds ≥ .36, and significantly lower vigor, b = −0.16, t(157) ≥ 3.39, p < .001, d = 0.54, than participants in the non-depleting condition. There were no condition differences for confusion, p = .591.

Main analyses.

Resistance to interrogative influence. According to the hypothesized biphasic process, police interrogation weakens suspects’ resistance to interrogative influence during its later phases through interrogator-related regulatory decline. To test this process, we effect-coded the depleting manipulation and examined its influence on Yield 1, Yield 2, and Shift, including mean-centered ACT scores as a covariate. As reported in Table 6, and illustrated in Figure 3, results indicate that the depleting manipulation did not significantly influence Yield 1 (MDepleting = 5.52, SE = 0.32 vs. MNon-depleting = 4.94, SE = 0.32), but did significantly influence Yield 2 and Shift. Participants in the depleting condition exhibited greater suggestibility than did participants in the non-depleting condition on both Yield 2 (MDepleting = 7.80, SE = 0.09 vs. MNon-depleting = 6.41, SE = 0.39) and Shift (MDepleting = 5.81, SE = 0.35 vs. MNon-depleting = 4.86, SE = 0.34).

Table 6
Experiment 2: Suggestibility Results (N = 160)

<table>
<thead>
<tr>
<th>Variable</th>
<th>b</th>
<th>95% CI</th>
<th>t</th>
<th>p</th>
<th>d</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yield 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>5.23</td>
<td>4.79</td>
<td>5.66</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACT scores</td>
<td>−0.10</td>
<td>−0.22</td>
<td>0.02</td>
<td>1.64</td>
<td>.100</td>
<td>0.26</td>
</tr>
<tr>
<td>Depleting manipulation</td>
<td>0.29</td>
<td>−0.15</td>
<td>0.72</td>
<td>1.29</td>
<td>.197</td>
<td>0.20</td>
</tr>
<tr>
<td>Yield 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>7.10</td>
<td>6.57</td>
<td>7.63</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACT scores</td>
<td>−0.09</td>
<td>−0.23</td>
<td>0.06</td>
<td>1.19</td>
<td>.234</td>
<td>0.19</td>
</tr>
<tr>
<td>Depleting manipulation</td>
<td>0.69</td>
<td>0.16</td>
<td>1.23</td>
<td>2.56</td>
<td>.011</td>
<td>0.40</td>
</tr>
<tr>
<td>Shift</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>5.34</td>
<td>4.87</td>
<td>5.81</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACT scores</td>
<td>−0.14</td>
<td>−0.27</td>
<td>−0.01</td>
<td>2.13</td>
<td>.033</td>
<td>0.34</td>
</tr>
<tr>
<td>Depleting manipulation</td>
<td>0.48</td>
<td>0.00</td>
<td>0.95</td>
<td>1.98</td>
<td>.048</td>
<td>0.31</td>
</tr>
</tbody>
</table>

Note. df = 157. ACT = American College Test. ACT scores were mean-centered. Depleting manipulation was effect-coded (depleting = +1, non-depleting = −1). Cohen’s d and the corresponding confidence intervals were calculated with a script developed by Wuensch (2012). Yield 1, Yield 2, Shift, and memory are dependent variables.

Memory. We did not find any evidence to support an association between participants’ memory for the story’s content and the depleting manipulation. The depleting manipulation did not significantly influence memory, b = 0.544, 95% CI = [−0.460, 1.548], t(157) = 1.061, p = .289, d = 0.17, 95% CI [−0.14, 0.48], nor did memory convey a significant indirect effect of the depleting manipulation on any of the suggestibility measures, lβs ≤ 0.072, lβs(157) ≤ 1.022, ps ≥ .307, ds ≤ 0.16.

Discussion

The results of Experiment 2 supported the second half of the hypothesized biphasic process of resistance. Participants whose self-regulatory resources had been reduced by virtue of having to repeatedly choose between a short-term gain and their long-term interests exhibited greater suggestibility on Yield 2 and Shift than did participants whose self-regulatory resources had not been reduced. No such difference emerged for Yield 1. This pattern of significant (i.e., Yield 2, Shift) and nonsignificant (i.e., Yield 1) effects emerged across both experiments, and conceptually fits the biphasic process of resistance that we proposed. Results did not support an association between memory and the depleting manipulation. Accordingly, the effects of self-regulatory decline were only evident for Yield 2 and Shift, which reflect decreased resistance to interpersonal pressure.

General Discussion

This research supported a biphasic process of resistance to interrogative influence among criminal suspects. In Experiment 1, an accusation of misconduct—as characteristically occurs early in a Reid-style interrogation—caused participants to exhibit responses indicative of mobilization and strengthened their resistance to the effects of suggestive questioning. In Experiment 2, repeatedly choosing between a short-term gain and long-term interests—as characteristically occurs throughout a Reid-style interrogation—caused participants to exhibit responses indicative of self-regulatory decline and weakened their resistance to the effects.
of suggestive questioning. These findings are important for several reasons.

First, they broaden theoretical understanding of suspects’ responses to police interrogation. Existing theory has concentrated on aspects of police interrogation that weaken suspects’ resistance to interrogation pressures over the course of extended questioning, thus emphasizing the effects associated with self-regulatory decline, such as fatigue and hopelessness (Davis & Leo, 2012; Gudjonsson, 2003; Kassin et al., 2010). However, our results provided experimental evidence that the threat of police interrogation that characterizes the early, confrontational phase of questioning can trigger an automatic and situationally induced stress reaction in suspects that can have the unintended and counterintuitive effect of protecting them from interrogation pressures, at least initially.

In our data, this protective effect was similar among guilty and innocent participants, thereby suggesting that the threat of police interrogation may mobilize all suspects beyond a threshold needed to strengthen their resistance to interrogative influence. It is also important to point out, however, that even though they might be similarly resistant, prior research has established that guilty and innocent suspects do make different choices. Most notably, compared with guilty suspects, innocent suspects make less self-protective choices because they feel shielded by their factual innocence (Kassin, 2005). The current data supported this interpretation, as innocent participants exhibited less physiological reactivity to the accusation than did guilty participants, a pattern that replicates prior research in supporting the hypothesis that the innocent feel less threatened by police interrogation than do the guilty (Guyll et al., 2013).

Second, the finding that participants more strongly resisted suggestive questioning when accused of misconduct has implications for understanding suspects’ ability to subsequently resist interrogation pressures. On the one hand, if a confrontational approach to questioning that typically characterizes the early phases of a Reid-style interrogation strengthens suspects’ resistance to interrogation pressures, as our results suggest it does, then police who take this approach may, paradoxically, have to work harder and longer to break down suspects’ resistance than if they had not produced the increased resistance in the first place. On the other hand, the idea that self-regulatory resources are finite (Muraven & Baumeister, 2000) suggests that if suspects expend a disproportionate amount of their self-regulatory resources during the early, confrontational phases of questioning, then they may subsequently have fewer resources available to effectively resist continuing interrogation pressures.

Because our research examined the effects of mobilization and self-regulatory decline separately, in two different experiments, our data cannot address whether or not prior mobilization quickens the process of interrogation-related regulatory decline. However, prior research has supported the limited-resource model of self-regulation by showing that the prior expenditure of self-regulatory resources temporarily impairs subsequent attempts to self-regulate (Muraven & Baumeister, 2000). Applying this effect to our data suggests that the very process of mobilization that bolsters suspects’ resistance to interrogation pressures during the early phases of police interrogation may increase their vulnerability to interrogation pressures in the long run, thus making the confrontational approach to police interrogation especially coercive.

Third, the findings complement research on individual differences. The scientific literature has provided compelling evidence that characterological vulnerabilities, such as low IQ, mental disorder, suggestive personality, and youth are associated with decreased resistance to interrogative influence (Gudjonsson, 2003; Kassin & Gudjonsson, 2004; Pimentel, Arndorfer, & Malloy, 2013). The current results highlight the importance of the situation by showing that resistance to suggestive questioning was strengthened by mobilization and weakened by self-regulatory decline. In other words, the situations that we experimentally created influenced suggestibility beyond that attributable to individual differences. Thus, our research provides evidence that police interrogation can decrease suspects’ resistance to interrogative influence independently from the influence of characterological vulnerabilities.

The Biphasic Process of Resistance in the Field

The findings of this research have implications for understanding the ability of suspects to resist interrogation pressures in the field. Experiment 1 showed that an accusation of cheating mobilized participants to resist the effects of suggestive questioning. Although this accusation was not trivial given that it occurred in a university context, it was also not as serious as the kinds of accusations made against interrogated suspects. This suggests that more serious accusations, like those made in the field, may produce greater mobilization and enable a suspect to more strongly resist interrogation pressures than we found here.

The current research did not address how long suspects may be capable of resisting these pressures, but recent research has suggested that in the course of routine interrogations, which typically last less than two hours, suspects may generally be able to sustain resistance throughout questioning. Kelly, Miller, and Redlich (2016) analyzed 29 interrogations, lasting an hour and a half, on average. They found that suspects demonstrated resistance by becoming immediately less cooperative in response to confrontational tactics, a pattern that remained stable for the duration of the interrogations they examined. By contrast, substantially longer interrogations, like those of proven false confessors (Drizin & Leo, 2004), could eventually bring even highly resistant suspects to the point of self-regulatory failure, such that they would be at high risk...
of fully succumbing to the interrogation pressures that were operating. It is also important to emphasize that some suspects, because of characterological vulnerabilities or the nature of their interrogations, may experience weakened resistance fairly quickly. Therefore, even relatively brief interrogations could weaken suspects’ resistance to interrogation pressures under some conditions.

Experiment 2 showed that a depleting task reduced the ability of participants to resist the effects of suggestive questioning. The fact that this effect emerged after only an hour-long depleting task might initially seem inconsistent with the findings of Kelly et al. (2016), in which suspects evidenced resistance over the course of somewhat longer interrogations. However, careful consideration reveals convergence across the two studies. The current experiment showed that engaging in a depleting task led to a relative decrement in resistance—not to a state of self-regulatory failure. That is, participants who engaged in the depleting task had, in fact, resisted the effects of suggestive questioning, as demonstrated by their GSS scores, which were above the 50th percentile compared with adults in the general population (Gudjonsson, 2009). It was just that they resisted those effects less than did participants who had not engaged in the depleting task. This result is consistent with Kelly et al.’s observation that suspects resisted the effects of confrontational tactics throughout their interrogations. Moreover, it is entirely possible that the suspects in Kelly et al.’s study may have evidenced weakened resistance over the course of questioning, but the measures that were used to assess their resistance lacked the necessary sensitivity to detect those changes.

**Mediation**

Whenever experimental manipulations lead to changes in behavior it is natural to inquire about the mediating mechanisms that produced those changes. In our research, readers might wonder whether physiological activity (which we used as an indicator of mobilization in Experiment 1) and self-reported fatigue (which we used as an indicator of self-regulatory decline in Experiment 2) mediated the corresponding manipulation’s effect on suggestibility. Consideration of the actual causal influences operating in these experiments, however, leads us to emphasize that it is not appropriate to consider either physiology or fatigue as mediators of the observed experimental effects.

In Experiment 1, the accusation manipulation influenced both physiological arousal and suggestibility. We interpreted this to mean that the accusation generally mobilized participants, the effects of which broadly impacted their responses, including their physiology and suggestibility. However, just because physiology and suggestibility are effects of a common cause—in this case, the accusation manipulation—does not mean that a causal relationship should also exist between the two effects. In these data, it is appropriate to interpret physiology and suggestibility as merely correlated outcomes of the same manipulation. By way of a particular illustration, there is no reason to expect that suggestibility would be increased by lowering an individual’s blood pressure.

In Experiment 2, the depleting manipulation influenced both self-reported fatigue and suggestibility. We interpreted this to indicate that the depleting manipulation generally caused a reduction in participants’ self-regulatory resources, the effects of which broadly impacted their responses, including their fatigue and suggestibility. However, the same argument that applied in Experiment 1 applies equally well in this instance. Just because fatigue and suggestibility might have shared a common cause does not imply that a causal relationship should exist between the two. Indeed, whereas fatigue is a well-established indicator of self-regulatory decline (Hagger et al., 2010), it is not the causal mechanism by which self-regulatory decline affects behavior (Vohs, Glass, Maddox, & Markman, 2011). In the current research, therefore, fatigue and suggestibility should be understood as co-occurring outcomes of the depleting manipulation. In summary, although the physiology and fatigue measures that we used in the current research were well-suited for use as manipulation checks, there exists no theoretical or conceptual bases for testing their role as mediators of the experimental effects.

**Suggestibility as a Measure of Resistance**

Resistence to interrogative influence is a broad construct that can take many forms. In the current research, we measured resistance to interrogative influence in terms of suggestibility. However, readers might wonder why we had not instead focused on the decision to confess or deny guilt, which would seem to be a particularly salient and important measure of resistance. Our reasoning was threefold. First, the decision to confess or deny guilt is a dichotomous outcome and, therefore, provides a relatively crude measure of the continuous construct of resistance, a characteristic that would have operated to reduce statistical power.

Second, within the cheating paradigm, it is common for guilty participants to confess at high rates. For example, Guyll et al. (2013) reported a confession rate of 93% among the guilty and Perillo and Kassin (2011) reported a confession rate of 87% among the guilty. Confession rates of this magnitude create a restriction of range that would have substantially reduced our ability to detect experimental effects among guilty participants.

Finally, measuring resistance with a confession decision would have weakened the strength of the experimental manipulations. In Experiment 1, we manipulated mobilization by accusing some participants, but not others, of misconduct. The no-acusation condition represented the optimal control because it corresponded to the absence of confrontation or threat. However, using a confession decision to measure resistance would have rendered this condition untenable because a coerced confession requires an accusation of misconduct. Had we sought a confession, therefore, it would have been necessary to accuse all participants of misconduct and to manipulate mobilization by varying the perceived threat of the accusation. This was certainly possible, but any accusation would have introduced more threat than no accusation at all, thereby reducing the strength of the manipulation. Similarly, in Experiment 2, an accusation of misconduct would have undermined the effect of the depleting manipulation by mobilizing the very resources we were seeking to reduce. Therefore, a confession decision—though an important marker of resistance—was not the ideal measure of resistance within this set of experiments.

**Limitations**

Several limitations of our research warrant discussion. First, experimenters were not blind to the accusation or depleting manipulations. Consequently, they could have unwittingly influenced participants’ responses to the suggestibility measures (Rosenthal,
Though conceivable, we safeguarded against experimenter effects by training experimenters to administer the suggestibility scales according to established procedures and keeping them naïve to the hypotheses. Although one could argue that the hypothesis of Experiment 2—that self-regulatory decline increases suggestibility—was transparent enough for experimenters to infer it on their own, the same cannot be said for the hypothesis of Experiment 1, which entailed the counterintuitive prediction that the initial threat of police interrogation decreases suggestibility. Moreover, had experimenter effects operated, then all three suggestibility scores should have confirmed the hypotheses. However, in both experiments, only Yield 2 and Shift confirmed the hypotheses, never Yield 1. This pattern, though not consistent with experimenter effects, is theoretically consistent with the hypothesized biphasic process of resistance.

Second, the tendency for a negative mood to encourage concrete and systematic processing (Fiedler & Bless, 2000) raises the possibility that suggestibility might have primarily been influenced by participants’ mood states. However, our results did not support this interpretation. Analyses of the responses to the six mood scales of the Profile of Mood States–Short Form (Shacham, 1983) from Experiment 2 showed that participants in the depleting condition reported a more negative mood than did participants in the non-depleting condition on all of the mood subscales (except Confusion), and yet evidenced greater suggestibility. Moreover, the inability of mood to account for our findings conforms to the literature more generally, which has converged on the conclusion that negative mood cannot explain the aftereffects of self-regulatory decline (Muraven & Baumeister, 2000).

Third, the magnitude of effects that we observed on suggestibility were relatively modest. This may have been due to the fact that ethics appropriately constrained how stressful we could make the experimental context and how much we could diminish participants’ self-regulatory resources. Moreover, our sample of college students was probably less vulnerable to misinformation than the typical suspect. Accordingly, in the context of coercive and lengthy interrogations and with vulnerable populations of suspects, the effects of mobilization and self-regulatory decline on suspects’ resistance may prove more powerful than we observed in our experiments. Relatedly, research indicating that interrogators who resist may prove more powerful than we observed in our experiments, only Yield 2 and Shift confirmed the hypotheses, never Yield 1. 

The findings also have important applied implications for rulings of voluntariness. When deciding whether an interrogated suspect’s incriminating statements were made voluntarily, courts consider the totality of the circumstances. Although this is a flexible standard, court rulings have revealed a tendency to evaluate the presence of police coercion in terms of obviously egregious interrogation tactics levied upon suspects with clear vulnerabilities (Brandon, 2010; Schulhofer, 1981; see Kassin et al., 2010 for a review). The present findings encourage a re-examination of this model of due process by indicating that prolonged resistance to interrogation pressures comes at a cost to a suspect’s self-regulatory resources and that this cost is paid even in the absence of obviously coercive interrogation tactics, even among suspects with no clear vulnerabilities, and even among suspects who are factually innocent.

References


