

Running Head: VICARIOUS ENTRAPMENT

Vicarious Entrapment: Your Sunk Costs, My Escalation of Commitment

Brian C. Gunia

*Northwestern University*

Niro Sivanathan

*London Business School*

Adam D. Galinsky

*Northwestern University*

*Journal of Experimental Social Psychology, 2009*

## Abstract

Individuals often honor sunk costs by increasing their commitment to failing courses of action. Since this escalation of commitment is fueled by self-justification processes, a widely offered prescription for preventing escalation is to have separate individuals make the initial and subsequent resource allocation decisions. In contrast to this proposed remedy, four experiments explored whether a psychological connection between two decision-makers leads the second decision-maker to invest further in the failing program orchestrated by the initial decision-maker. Across three different contexts (financial investments, personnel decisions, and auctions), we found that multiple forms of psychological connectedness (perspective-taking, shared attributes, and interdependent mindsets) led decision-makers to vicariously justify others' initial decisions and escalate their own commitment to these decisions – even in the face of direct financial costs to themselves, and even among economics students trained in the irrationality of honoring sunk costs. The ability of subtle psychological connections to undermine the conventional prescription for de-escalation has important implications for organizations, public policy, and theories of escalation.

Key words: escalation of commitment, sunk costs, vicarious self-justification, perspective-taking, interdependence

In 2006, Brian Hunter, a trader with Amaranth hedge fund, held a financial position that predicted natural gas prices would rise. Despite mounting evidence to the contrary, he stuck to his position. Within a week, he amassed \$4.6 billion in losses, precipitating the largest hedge fund collapse in history. In 1965, the Long Island Lighting Company set out to build the first commercial nuclear power plant, scheduled for operation in 1973 with an estimated cost of \$70 million. Despite cost overruns, regulatory setbacks, and evidence of economic infeasibility, the company pressed forward. When the project was finally decommissioned in 1983, never having seen a day of commercial operation, the expenditures had mushroomed to over \$6 billion. Both stories exemplify the decision bias called “escalation of commitment”: a decision-maker’s tendency to honor resources already invested, which economists refer to as “sunk costs,” by allocating further resources to a failing course of action (Staw, 1976).

Escalation is often driven by motivational processes (Kunda, 1990), fueled by the desire to justify past decisions (Staw, 1976). Based on these self-justification processes, researchers have prescribed the elegant remedy of having one individual make the initial resource decision and a different individual make the subsequent decision (Brockner, 1992; McCarthy, Schoorman, & Cooper, 1993; Schoorman, 1988; Staw, Barsade, & Koput, 1997). This partitioning of decision-makers removes the initial decision-maker’s self-serving need to justify previous investments and slackens the motivation to honor sunk costs by reinvesting in failing courses of action.

In some instances, however, this theoretically sound advice seems to fail. For instance, when Lyndon Johnson assumed the Presidency from John F. Kennedy, he inherited his fellow Democrat’s initial commitment of 16,000 troops to the Vietnam War. Near the end of the Johnson administration, the initial commitment had spiraled to 537,000 troops. Although many

socio-political processes contributed to the increase in troop deployment, escalation was singled out as an important culprit (Staw, 1976).

We propose that the success of the commonly-prescribed, two decision-maker solution rests not just on the *physical* separation, but also on the *psychological* separation of the decision-makers. If the second decision-maker is psychologically connected to the first, she may become vicariously motivated to justify the actions of the first. Even the subtlest of psychological connections, we propose, can undermine this accepted panacea to escalation. The current research explicitly tests whether a psychological connection between physically separate decision-makers – born of perspective-taking, shared attributes, or an interdependent mindset – facilitates escalation, counter to the prescribed solution.

#### Separating Decision-Makers to De-escalate Commitment

Escalation of commitment occurs when a decision-maker allocates resources toward a particular goal, and then learns that the goal has not been achieved. Now facing an ambiguous choice about whether additional resources will achieve the goal, the decision-maker increases his or her original investment (i.e., escalates). Because individuals are motivated to see themselves positively (Bradley, 1978; Weinstein, 1980), feedback that challenges this view (i.e., a failed initial decision) creates self-threat that the decision-maker attempts to reduce by increasing allocations (of effort, money, time, or other resources) towards the initial decision in an attempt to prove that this decision was correct all along (Brockner, et al., 1986; Sivanathan, Galinsky, Molden, & Ku, 2008; Staw, 1976). Drawing on dissonance theory (Festinger, 1957) and self-justification extensions of that theory (e.g., Aronson, 1968; Aronson and Carlsmith, 1962; 1963), Staw (1976, p. 42) claimed that escalation occurs precisely because, “individuals actively seek to maintain or restore the appearance of rationality to a previously chosen course of action” (see

also Staw & Fox, 1977). The self-justification inherent in the escalation process is similar to effort justification - rationalizing the importance of an accomplishment by the amount of effort expended and hardships endured in pursuing it. For example, those who suffer a severe initiation to join a new club are more attracted and committed to their new membership than those who experience a pedestrian initiation (Aronson & Mills, 1959). Further evidence in support of self-justification processes comes from work by Sivanathan et al. (2008) who found that affirming one's overall self-worth (see C. M. Steele, 1988) after a poor decision decreased escalation to the failing course of action.

Consistent with the logic of self-justification, reducing personal responsibility helps reduce cognitive dissonance more broadly (Cooper & Fazio, 1984) and escalation of commitment more specifically (Staw, 1976). For example, new managers rate the performance of underperforming employees less favorably than the managers who initially hired them (Schoorman, 1988); entrepreneurs who purchase existing businesses invest less capital than the entrepreneurs who established them (McCarthy et al., 1993); and new senior loan managers sever commitments to problem loans more often than the managers who authorized them (Staw et al., 1997).

Taken together, these findings have clear theoretical and practical implications: introducing a new decision-maker after a failed initial decision removes personal responsibility and negates the psychological need to justify past actions (Brockner, 1992). This elegant partitioning of decision-makers, designed to guarantee objectivity in subsequent investment decisions, has been promoted as a halcyon pill to cure escalation. However, researchers have yet to consider whether psychological connections between decision-makers, even those exogenous to the context of the escalation scenario (i.e., a shared birthday) or those created through subtly

activating connectedness mindsets, undermine the benefits of physically separating decision-makers.

### Psychological Connections and Vicarious Processes

Humans are inherently social beings, driven to secure attachments with others (Baumeister & Leary, 1995). People feel connected to others when they share even subtle similarities like common group membership (Tajfel, Billig, Bundy, & Flament, 1971), similar names (Pelham, Carvallo, & Jones, 2005), and even the same birthday (Miller, Downs, & Prentice, 1998). Once a psychological connection forms between two individuals, they are more likely to cooperate (Batson, Chang, Orr, & Rowland, 2002) and favor one another financially (Aron, Aron, Tudor, & Nelson, 1991).

One powerful implication is that individuals take on the properties of the person they feel connected to, psychologically affording them “self” status. For example, close relationships blur the boundaries between the self and their partner (Aron, et al., 1991; Cialdini, Brown, Lewis, Luce, & Neuberg, 1997; Goldstein & Cialdini, 2007). People’s mindsets and cognitive orientations can also produce a clouding of self and other. Perspective-takers, whether manipulated or measured, psychologically take on the characteristics of others, seeing others’ central attributes as more self-descriptive (Davis, Conklin, Smith, & Luce, 1996; Galinsky, Ku, & Wang, 2008). Similarly, individuals who construe the self as interdependent define themselves in terms of their groups’ attributes (e.g., Brewer & Gardner, 1996; Kuhnen, Hannover, & Schubert, 2001; Markus & Kitayama, 1991).

These psychological connections create numerous vicarious possibilities. When people feel connected to others, they experience others’ joy (Murray, Holmes, Bellavia, Griffin, & Dolderman, 2002) and pain (Batson, 1991; Jackson, Brunet, Meltzoff, & Decety, 2006).

Connectedness can lead individuals to suffer the exhaustion of others' self-control efforts (Ackerman, Goldstein, Shapiro, & Bargh, 2009) and even feel others' cognitive dissonance, leading them to alter their own attitudes as if they themselves had made the counterattitudinal statement (e.g., Norton, Monin, Cooper, & Hogg, 2003). Thus, blurred self-other boundaries, born of psychological connectedness, can lead individuals to experience and behave more consistently with others' internal states.

### Overview of the Current Research

We contend that psychological connectedness will lead one decision-maker to honor the sunk costs of a previous decision-maker, as if the other's sunk costs were his/her own. As a result, these subtle psychological connections will have the unintended effect of perpetuating the very bias that physical separation was intended to placate.

We conducted four studies to examine if multiple forms of psychological connectedness – perspective-taking (Experiments 1 and 2), shared attributes (Experiment 3), and interdependence (Experiment 4) – lead decision-makers to escalate upon other's failed decisions. Three of our experiments (1, 2, and 4) used the most validated escalation paradigms in the literature, which involve investments in failing organizational divisions (Staw, 1976) or underperforming employees (Bazerman et al., 1982). When using these paradigms, we incentivized participants to think carefully about their decisions by rewarding them extra money for optimal investments and choices. Our third study employed a new escalation paradigm involving an auction (Ku, 2008), in which escalating had tangible and adverse financial consequences for participants. We predicted that psychological connectedness would lead participants to escalate their commitment to the initial decision-maker's investment, even when that escalation was financially costly to themselves.

### Experiment 1: Perspective-Taking and the Failing Division

The first experiment tested whether perspective-taking would increase commitment to another person's initial decision. We used the single-most validated escalation scenario, the A&S case (e.g., Schultz-Hardt, Thurow-Kronig, & Frey, 2009; Sivanathan et al., 2008; Staw, 1976). In the first experiment, participants learned that another individual, BG, chose to invest in a division that had since performed worse than the un-chosen division. Participants then made additional investments in the two divisions. We predicted that taking the perspective of the prior decision-maker would lead participants to invest more money in the originally-chosen division.

#### *Participants and Design*

Participants were 55 undergraduate students (27 females, 1 unreported), randomly assigned to either the *perspective-taking* or *objective* condition.

Participants read about and saw a picture of, a college-aged male with initials BG, who had served as financial Vice President in a previous experiment and invested \$5 million in one of two divisions of the A&S Company (for full details, see Staw, 1976).

*Perspective-taking.* Before reading about BG's decision, participants in the *perspective-taking* condition were instructed to take his perspective by imagining how he might have felt and thought as he made his decision. Participants in the *objective* condition were instructed to be objective when evaluating his decision, without getting caught up in BG's thoughts or feelings.

*Escalation of Commitment.* Participants then learned that BG chose to invest in the Consumer Division. However, in the subsequent five years, the chosen division performed worse than the un-chosen one (the Industrial Division). Participants learned that they were now appointed VP of the A&S Company and needed to allocate an additional \$10 million in any proportion, between the two divisions. Consistent with previous studies (e.g., Sivanathan, et al.,

2008; Staw, 1976), the amount of money invested in the Consumer division served as our measure of escalation of commitment.

In this experiment, as well as Experiments 2 and 4, participants were given a financial incentive to make the best possible decision. Specifically, they were told: “As a bonus, if your decision results in the best outcome, you will receive an additional payout of \$50. This rank-ordered calculation will be done for every 50 participants.”

### *Results and Discussion*

As predicted, participants who took the perspective of the first decision-maker invested more in the originally invested division than participants who remained objective,  $t(53) = 2.12$ ,  $p = .04$ ,  $d = .58$  (see Table 1). These results provide initial support for our prediction that taking a previous decision-maker’s perspective leads participants to escalate on that decision-maker’s prior commitments.

#### Experiment 2: Perspective-Taking and the Failing Employee

In Experiment 2 we sought to enhance the generalizability of our findings by: a) comparing perspective-taking to a no-instructions control condition to ensure that the observed effects were not driven by the objectivity instructions, b) separating the perspective-taking manipulation from the escalation task, and c) using a different, validated escalation scenario (personnel decisions, Bazerman et. al., 1982). Participants were first asked to write about the day in the life of a recent participant, NS, and were either instructed to take the participant’s perspective or received no additional instructions while writing their day-in-the-life essay. Participants then learned that during a recent experiment, NS had the choice to hire one of two job candidates, and the hired candidate had since performed poorly. Participants were asked to evaluate the hired employee on two dimensions that determined the employee’s future with the

company (adapted from Bazerman et al., 1982). Consistent with Experiment 1, we predicted that participants who had taken NS's perspective would increase their investment in the previously chosen candidate.

### *Participants and Design*

Participants were 54 undergraduate students (35 females), randomly assigned to either the *perspective-taking* or *control* condition.

*Perspective-taking.* Participants were shown a picture of a college-aged male named NS and were asked to write about a typical day in NS's life. Those in the *perspective-taking* condition were instructed to go through a typical day in his shoes, looking at the world through his eyes. Those in the *control* condition received no additional instructions.

*Escalation of commitment.* Participants then learned that NS played the role of a hiring manager in a recent experiment. After reviewing the resumes of "Ken Arnold" and "Tom Richards" (these resumes were also provided to participants), NS had decided to hire Ken (for full details, see Sivanathan et al., 2008). Participants learned that, although Ken seemed promising, his performance had since been poor: "The first big project Ken managed ran significantly over the allocated time schedule and budget. Ken also failed to secure an important contract with a big client, representing a significant financial loss to NS's company."

Participants learned that they would now assume the role of hiring manager and needed to conduct an annual review of Ken Arnold. Participants then determined Ken's pay increase (0-5%, in half-point increments) and bonus vacation days (0-4, in 1-day increments) for the upcoming year. Since the variables were on different scales, they were standardized. Because the standardized variables were correlated  $r(54) = .37$ , and because previous studies (e.g., Sivanathan et al., 2008) had collapsed these two variables, we averaged them to produce an

escalation index<sup>1</sup>. The tendency to invest further resources in pay and bonus vacation time served as our measure of escalation of commitment.

### *Results and Discussion*

As predicted, perspective-takers increased their investment in the previously chosen candidate more than did control participants,  $t(52) = 2.138, p = .04, d = .59$  (see Table 1). These results provide strong support for our hypothesis that perspective-taking fuels escalation of others' commitments. Taken together, the first two experiments, employing different escalation contexts, different manipulations of perspective-taking, and different comparison conditions, revealed that individuals vicariously justify others' decisions by escalating their own commitment.

#### Experiment 3: Shared Attributes and the Failing Auction

In Experiment 3, we sought to further demonstrate the robustness of the link between psychological connectedness and vicarious escalation by examining a different and more subtle form of psychological connection (shared attributes: the same birthday) and a different escalation context (an auction) in which participants bid and potentially lost their own money (adapted from Ku, 2008). In addition, and more importantly, we sought to increase our confidence in vicarious escalation by replicating the effects of prior experiments under several, stringent conditions; when: a) escalation clearly conflicted with the participant's own self-interest; b) escalation carried real, material costs to the participant; and c) experimental demand was unlikely to influence participant's choices given the subtle form of psychological connection. With respect

---

<sup>1</sup> Given the modest correlation between the two items, we faced a dilemma between presenting a single-item measure, which can be subject to reliability concerns, and using the combined measure that previous research has used (Sivanathan et al., 1982). We decided to average the two items for three reasons: a) To be consistent with past research; b) to simplify the presentation of the results; and c) because two-item measures are more reliable than single-item measures. It is clear that the same pattern occurred for both bonus vacation days (Perspective-taking:  $M = 2.26, SD = 1.23$ ; Baseline:  $M = 1.70, SD = .91$ ) and pay increase (Perspective-taking:  $M = 3.26, SD = 1.93$ ; Baseline:  $M = 2.48, SD = 1.63$ ).

to experimental demand, the current experiment manipulated psychological connection by simply providing information about the first decision-maker instead of asking participants to do something (i.e., take another participant's perspective), as in our previous experiments.

Participants first learned about the rules of the auction. We then asked them to watch another participant (who we henceforth call "the target"), bid in an auction. The target either shared or did not share some demographic attributes with the participant (based on Miller, et al., 1998). Finally, participants were asked to "take over" for the target they had just observed, with the option of not bidding at all. The rules made it clear that if they did not end up winning the auction (i.e., if the other bidder outbid them), not bidding at all would earn participants the maximum bonus (\$2), bidding once would reduce their pay to \$1, bidding twice would reduce it further to \$0, and bidding three or more times could result in participants owing money to the experimenter, which ostensibly would be collected from their show-up fee. We predicted that psychologically connected decision-makers would continue to escalate on the failing decisions of others, despite tangible costs to their own material well-being.

### *Participants and Design*

Participants were 49 undergraduate students (36 females), randomly assigned to one of two conditions: *shared attributes* or *different attributes*. One participant was excluded for expressing confusion and two for expressing suspicion. All participants received \$12 for their participation, plus any bonus money earned in the task. Although participants believed that escalating would reduce their participation fee, their fee was not reduced in actuality.

*Shared Attributes.* When participants first arrived, they answered several demographic questions. They then learned that they would watch another participant bid in an online auction and would answer questions about this person at a later stage. Participants were told that privacy

rules limited the disclosure of information about the target individual they were watching but that the experiment would provide some limited information about this person: birthday month, school year, and age. Specifically, participants were told:

*This person was born in [<month>], is a [<school year>], and is [<age>] years old. From now on, we will refer to this person as the [<month> <school year>]. This participant will bid against "the other bidder".*

For *shared-attributes* participants, we inserted their own birthday month in place of <month>, their own school year in place of <school year>, and (their own age + 1) in place of <age>. Thus, participants in this condition saw that the target shared two of three attributes: their birthday month and school year. For *different attributes* participants, we added six months to their birthday month and one year to their school year and age; thus, the target shared no attributes. Throughout the experiment, the target was referred to by the two attributes that were either shared or different: their birthday month and school year – for example, “the February freshman.”

*Auction.* All participants watched the target participant bid against another participant (“the other bidder”), expecting to later answer a set of “detailed questions” about the target’s decisions.

Before watching, participants learned the auction rules and also saw an animated demonstration of the auction. Participants were informed that the target would receive 360 free points to bid on a 356-point prize. Both free points and prize points were convertible to cash at a rate of 8 points = \$0.10. Following Ku (2008), participants were informed that the loser of the auction was required to pay their highest bid, but would receive nothing in return (see Shubik, 1971). As a result, bids in excess of the 356-point prize could reduce participants’ show-up fee if they did not end up winning the auction. The bidding would proceed in 40-point increments,

without jump-bidding, on a fixed, four-second time interval. Since the auction was carried out through computer terminals, no communication was possible. To ensure complete comprehension of the task, a sample auction clearly illustrated how much money the target would earn under various scenarios; participants were also invited to ask the experimenter questions at any time.

Participants then watched the target bid, in 40-point increments, all the way up to 200 points. At this juncture, the participant learned that the logistics of the experiment required the target to complete another task. Participants were asked to take over for the target, under the same auction rules. They read the following: “We need YOU to take over for this person. You will now join the auction and make as many, or as few, bids as you would like. You will take on the [target]’s previous decisions, but whatever points you have remaining after the auction will be YOURS to keep (the rate is still 8 points = \$0.10).” The auction ended when the computer/confederate bid 800 points<sup>2</sup> or when participants stopped bidding; thus, the experiment was programmed to ensure participants never won the auction. When the auction ended, the computer informed participants that they would receive a bonus or would have to pay their last bid (if it exceeded their 360 point endowment).

*Escalation of commitment.* We examined two different measures of escalation: the number of bids participants made and whether participants bid so far as to ostensibly owe the experimenter money (which would occur after 3 or more bids, when they exceeded their 360 point endowment and did not win the auction).

### *Results and Discussion*

---

<sup>2</sup> We chose to have the auction end at 800 points to give it a definite ending and to be consistent with prior work (Ku, 2008).

As predicted, participants in the shared-attributes condition made more overall bids than did participants without shared attributes,  $t(47) = 2.30, p = .03, d = .66$  (See Table 1). In monetary terms, shared-attributes participants lost a significant amount of money, an average of \$2.00 from the auction,  $t(23) = 4.29, p < .01$ , whereas those with different attributes lost just \$0.52, which was not significantly different from zero,  $t(24) = 1.17, p = .25$ . Furthermore, 71% of participants (17 out of 24 participants) in the shared-attributes condition, versus only 32% of participants (8 out of 25 participants) in the different-attributes condition, went “into the red” (i.e., made 3 or more bids), ostensibly requiring them to pay the experimenter ( $\chi^2_{(1)} = 7.39, p < .01$ ).

These results strongly support our hypothesis that psychological connections breed vicarious escalation, even when escalation conflicts with self-interest and inflicts tangible financial costs on the decision-maker. Furthermore, even subtle psychological connections like sharing a birthday promoted vicarious escalation.

#### Experiment 4: Interdependence and Vicarious Self-Justification

Experiment 4 sought to extend the previous findings that psychological connectedness fuels escalation in several ways. First, we examined the effects of a generalized psychological connection by activating an interdependent mindset through priming. Second, to measure the experience of vicarious self-justification, we asked participants how they felt about themselves after learning the outcome of the first person’s decision. We predicted that participants in the interdependent condition would vicariously feel worse, and the resulting negative feelings would motivate, and thus mediate, their investment decisions. That is, interdependent participants, motivated to attenuate their own negative thoughts about the self stemming from another’s failed initial decision, would increase their own commitment towards the failing course of action.

Finally, we examined our hypotheses using economic majors – individuals well-versed in rational models of prospective decision-making and the irrationality of honoring sunk costs (Arkes & Blumer, 1985). We predicted that, despite prior knowledge about rational decision-making, priming interdependence would still motivate participants to honor the sunk costs of a previous decision-maker.

### *Participants and Design*

Participants were 33 undergraduate economics majors (12 females), randomly assigned to either an *interdependent* prime or *independent* prime condition. Participants believed that they would participate in two separate experiments: a writing task followed by a decision-making task.

*Interdependence.* For the writing task, participants in the *interdependent* condition were instructed to write about a situation in which they worked with others to complete a task, focusing on the collaboration process. Those in the *independent* condition were instructed to write about a situation in which they worked alone to complete a task.

*Escalation.* Participants then followed the same procedures as Experiment 1, with two exceptions: 1) they learned nothing about (and saw no picture of) the previous participant; 2) they received no instructions about taking this person's perspective or remaining objective.

*Vicarious Self-Justification as the Mediator.* We measured how participants felt after seeing the outcome of the initial participant's choice. At the conclusion of the experiment, they were asked: "After seeing the results of the participant's initial choice, how did you feel about yourself?" on a five-point scale ranging from "very positive" to "very negative."

### *Results and Discussion*

As predicted, participants primed with interdependence invested significantly more in the previously-chosen division than did participants primed with independence,  $t(31) = 2.67, p = .01, d = .96$  (see Table 1). Furthermore, participants in the interdependent condition reported feeling worse about themselves ( $M = 3.00, SD = 0.43$ ) than did participants in the independent condition ( $M = 2.33, SD = 0.97$ );  $t(31) = 2.26, p = .03, d = .81$ .

As predicted, self-justification mediated the relationship between interdependence and escalation (see Figure 1): when self-justification and condition simultaneously predicted investment decisions, self-justification was a significant predictor ( $\beta = .37, B = 1.13, SE = 0.50, p = .03$ ), whereas condition was only marginally significant ( $\beta = .29, B = 1.58, SE = 0.89, p = .08$ ). We tested the overall significance of the indirect effect through the mediator by constructing a 95% CI: if zero falls outside the 95% CI, the indirect effect is significant (Shrout & Bolger, 2002; Preacher, Rucker, & Hayes, 2007)<sup>3</sup>. The 95% CI = 0.04 to 2.12, demonstrating significant mediation. These results provide support for our assertion that psychological connections undermine the two decision-maker solution by: a) clearly elucidating the underlying psychological process (i.e., vicarious self-justification), and b) highlighting the robustness of the phenomenon by demonstrating it amongst the very individuals well versed in economic rationality and the perils of honoring sunk costs.

### General Discussion

Across four experiments, using different instantiations of psychological connectedness, escalation scenarios, and participant populations, we found that psychologically connected

---

<sup>3</sup> Shrout & Bolger (2002; see also Preacher et al., 2007) have discouraged the use of the Sobel test to examine mediation by showing that it is an underpowered and inefficient test – especially for small sample sizes, as in the current experiment. The Sobel test assumes a normal distribution of the product term [a (IV influence on mediator) x b (mediator influence on DV)], but this normality assumption is hardly ever met in practice. As such, the use of bootstrapping based on confidence intervals provides a more appropriate test of mediation, as it normalizes the a x b product term. Even with very large samples, the Sobel test is still poorer at detecting mediation, compared to bootstrapping.

decision-makers escalated their investment in the failed decisions of others to vicariously justify those prior decisions. Participants escalated whenever they experienced a psychological connection to the earlier decision-maker: by taking the perspective of the previous decision-maker (Experiments 1-2), by sharing subtle attributes with the previous decision-maker (i.e., the same birthday and school year in Experiment 3), or by being in an interdependent mindset (Experiment 4). These effects of psychological connection on vicarious entrapment held even when a) participants suffered real financial costs and b) their economics education attuned them to the economic irrationality of escalation. Our final study demonstrated that vicarious self-justification mediated the tendency for psychological connections to promote escalation.

Taken together, these findings reaffirm the remarkable strength of psychological connections and the power of vicariousness. Our research, considered as part of the growing literature on vicarious psychological processes, suggests that humans can share and take on even the most private cognitive processes of others – including fatigue (Ackerman et al., 2009), dissonance (Norton et al., 2003), stereotypic attributes (Galinsky et al., 2008), or, as in the current studies, the need for self-justification. Our set of results, along with this burgeoning body of research, makes it clear that vicarious experiences are not psychological anomalies but central elements of everyday human thought.

#### *Towards a Comprehensive Model of Vicarious Processes*

Given that our studies reveal systematic limitations for the theoretically-grounded and widely-accepted solution to escalation – physically separating initial and subsequent decision-makers – future work in this domain should examine how individuals and organizations can help inoculate decision-makers from vicarious entrapment. One promising avenue is suggested by the work on vicarious dissonance (Norton et al., 2003). Norton and colleagues, in their Study 3,

elegantly demonstrate that vicarious dissonance, like non-vicarious dissonance, requires the perception of free choice and the production of aversive consequences. Specifically, when observers believed that a fellow-group member had little choice in making a counterattitudinal statement and/or the statement had no negative consequences, they, like the group member who made the counterattitudinal statement, felt no dissonance and no need to change their attitude. Similarly, the escalation literature specifies that the decision-maker needs to feel “personally responsible” for the failing investment, in order to trigger the self-justification motive (Staw, 1976; Brockner 1992; Staw, Barsade & Koput, 1997). Thus, in the escalation domain, future research could examine if the initial decision-maker’s feelings and expressions of personal responsibility also acts as a driver of vicarious escalation. By examining the essential ingredients that make up the non-vicarious escalation brew, researchers can test the limits of vicarious processes while also identifying more effective ways to limit escalation.

An additional, promising avenue is the role of self-affirmation (C. M. Steele, 1988) in escalation. Since escalation is borne from the desire to protect the ego from threatening information, self-affirmation enables decision-makers to restore self-integrity and thus reduce the need to self-justify through further escalation (Sivanathan et al., 2008). Extending this theoretical rationale to vicarious processes more generally, future research may explore a) whether self-affirmation by the second decision-maker can help cure vicarious self-justification needs and prevent escalation or even b) whether the mere act of observing the initial decision-maker self-affirm reduces the second decision-maker’s own need to vicariously self-justify.

#### *Political and Organizational Implications*

On a practical level, our results paint a cautionary tale for reducing escalation: simply allocating sequential investment decisions to different individuals may be insufficient. Real-

world decision-makers often share a multitude of commonalities – locations (e.g., same department), ascribed attributes (e.g., gender), identities (e.g., alma maters), as just a few examples – that create psychological connections.

Earlier, we described how President Johnson, Kennedy's fellow Democrat and running mate, escalated upon his predecessor's commitment to Vietnam. Similarly, the 2008 U.S. Presidential race began as a referendum on the Iraq war, and it became clear that the Republican nominees were more committed to continuing and increasing their fellow Republican's initial decisions to invade Iraq. The one candidate who was most articulate about the need to reconsider the U.S.'s continued and increasing investment in the Iraq conflict was Barack Obama, who also happened to be one of the few candidates who did not vote to declare war (because he was not in the federal government at the time<sup>4</sup>). In light of our research, this suggests that the de-escalation that often accompanies changes in political parties may arise as much from an absence of psychological connection as from an ideological shift. Conversely, shared identities may present a powerful lure that binds the new occupants of the executive branch to the failing decisions of their predecessors.

In political arenas and in everyday life, we are typically caught in a complex web of psychological connections. Despite their shared political affiliation and the fact that Johnson was a member of the Kennedy administration that made the initial commitment to Vietnam, Johnson and Kennedy notoriously butted heads. In conjunction with the implications above, future research should also explore when and why we subscribe to some connections more than others and thus find ourselves inexorably entrapped in others' lost causes.

The much-heralded physical partitioning of decision-makers, we contend, is an insufficient remedy for escalation. Although physically separating the first and second decision-

---

<sup>4</sup> However, Obama did vote to fund the war once arriving in the Senate.

maker will often produce psychological separation, expecting the second decision-maker to automatically bring an outside perspective may be unrealistic, as evidenced in our current research. Our findings imply that once a psychological connection *is* made, subsequent decision-makers run the risk of vicarious entrapment in others' failures. Thus, organizations truly intent on de-escalating should identify decision-makers who are not only competent but psychologically removed from prior decision-makers. For instance, Salomon Brothers, marred by a series of escalating misdeeds by its executives, weathered the storm by introducing the ultimate outsider, Warren Buffett (J. Steele, 1999). Overall, introducing true outsiders without any psychological connections to their predecessors into organizations or governments may spell the difference between being trapped in endless cycles of flawed investments, versus escaping the clutches of past failures.

## REFERENCES

- Aronson, E. (1968). Dissonance theory: Progress and problems. In R. P. Abelson et al. (Eds.), *Theories of cognitive consistency: A sourcebook*. Chicago: Rand McNally.
- Ackerman, J. M., Goldstein, N. J., Shapiro, J. R., & Bargh, J. A. (2009). You wear me out: The vicarious depletion of self-control. *Psychological Science*.
- Arkes, H. R., & Blumer, C. (1985). The psychology of sunk cost. *Organizational Behavior and Human Decision Processes*, 35, 124-140.
- Aron, A., Aron, E. N., Tudor, M., & Nelson, G. (1991). Close relationships as including other in the self. *Journal of Personality and Social Psychology*, 60, 241-253.
- Aronson, E. & Carlsmith, J. M. (1962). Performance expectancy as a determinant of actual performance. *Journal of Abnormal and Social Psychology*, 65, 179-182.
- Aronson, E. & Carlsmith, J. M. (1963). Effects of severity of threat in the devaluation of forbidden behavior. *Journal of Abnormal and Social Psychology*, 66, 584-588.
- Aronson, E. & Mills, J. (1959). The effect of severity of initiation on liking for a group. *Journal of Abnormal and Social Psychology*, 59, 177-181.
- Batson, C. D. (1991). *The altruism question: Toward a social psychological answer*. Hillsdale, NJ: Lawrence Erlbaum.
- Batson, C. D., Chang, J., Orr, R., & Rowland, J. (2002). Empathy, attitudes, and action: Can feeling for a member of a stigmatized group motivate one to help the group? *Personality and Social Psychology Bulletin*, 28, 1656-1666.
- Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin*, 117, 497-529.
- Bazerman, M. H., Beekun, R. I., & Schoorman, F. D. (1982). Performance evaluation in a dynamic context: A laboratory study of the impact of a prior commitment to the ratee. *Journal of Applied Psychology*, 67, 873-876.
- Bradley, G. W. (1978). Self-serving biases in attribution process: A re-examination of the fact or fiction question. *Journal of Personality and Social Psychology*, 36, 56-71.
- Brewer, M. B., & Gardner, W. (1996). Who is this "we"? Levels of collective identity and self representations. *Journal of Personality and Social Psychology*, 71, 83-93.
- Brockner, J. (1992). The escalation of commitment to a failing course of action: Toward theoretical progress. *Academy of Management Review*, 17, 39-61.
- Brockner, J., Houser, R., Birnbaum, G., Lloyd, K., Deitcher, J., Nathanson, S., et al. (1986). Escalation of commitment to an ineffective course of action: The effect of feedback having negative implications for self-identity. *Administrative Science Quarterly*, 31, 109-126.
- Cialdini, R. B., Brown, S. L., Lewis, B. P., Luce, C., & Neuberg, S. L. (1997). Reinterpreting the empathy-altruism relationship: When one into one equals oneness. *Journal of Personality and Social Psychology*, 73, 481-494.
- Cooper, J. & Fazio, R. H. (1984). A new look at dissonance theory. In L. Berkowitz (Ed.), *Advances in experimental social psychology: Vol. 17* (pp. 229-262). Hillsdale, NJ: Erlbaum.
- Davis, M. H., Conklin, L., Smith, A., & Luce, C. (1996). Effect of perspective taking on the cognitive representation of persons: A merging of self and other. *Journal of Personality and Social Psychology*, 70, 713-726.
- Festinger, L. (1957). *A theory of cognitive dissonance*. Evanston, IL: Row Peterson.

- Galinsky, A. D., Ku, G., & Wang, C. S. (2008). Perspective-takers behave more stereotypically. *Journal of Personality and Social Psychology, 95*, 404-419.
- Goldstein, N. J., & Cialdini, R. B. (2007). The spyglass self: A model of vicarious self-perception. *Journal of Personality and Social Psychology, 92*, 402-417.
- Hofstede, G. (1983). The cultural relativity of organizational practices and theories. *Journal of International Business Studies, 14*, 75-89.
- Jackson, P. L., Brunet, E., Meltzoff, A. N., & Decety, J. (2006). Empathy examined through the neural mechanisms involved in imagining how I feel versus how you feel pain. *Neuropsychologia, 44*, 752-761.
- Ku, G. (2008). Learning to de-escalate: The effects of regret in escalation of commitment. *Organizational Behavior and Human Decision Processes, 105*, 221-232.
- Kuhnen, U., Hannover, B., & Schubert, B. (2001). The semantic-procedural interface model of the self: The role of self-knowledge for context-dependent versus context-independent modes of thinking. *Journal of Personality and Social Psychology, 80*, 397-409.
- Kunda, Z. (1990). The case for motivated reasoning. *Psychological Bulletin, 108*, 480-498.
- Markus, H. R., & Kitayama, S. (1991). Culture and the self: Implications for cognition, emotion, and motivation. *Psychological Review, 98*, 224-253.
- McCarthy, A. M., Schoorman, F. D., & Cooper, A. C. (1993). Reinvestment decisions by entrepreneurs: Rational decision making or escalation of commitment? *Journal of Business Venturing, 8*, 9-24.
- Miller, D. T., Downs, J. S., & Prentice, D. A. (1998). Minimal conditions for the creation of a unit relationship: The social bond between birthdaymates. *European Journal of Social Psychology, 28*, 475-481.
- Murray, S. L., Holmes, J. G., Bellavia, G., Griffin, D. W., & Dolderman, D. (2002). Kindred spirits? The benefits of egocentrism in close relationships. *Journal of Personality and Social Psychology, 82*, 563-581.
- Norton, M. I., Monin, B., Cooper, J., & Hogg, M. A. (2003). Vicarious dissonance: Attitude change from the inconsistency of others. *Journal of Personality and Social Psychology, 85*, 47-62.
- Pelham, B. W., Carvallo, A., & Jones, J. T. (2005). Implicit egoism. *Current Directions in Psychological Science, 14*, 106-110.
- Preacher, K. J., Rucker, D. D., & Hayes, A. F. (2007). Addressing moderated mediation hypotheses: Theory, methods, and prescriptions. *Multivariate Behavioral Research, 42*(1), 185-227.
- Schoorman, F. D. (1988). Escalation bias in performance appraisals: An unintended consequence for supervisor participation in hiring decisions. *Journal of Applied Psychology, 73*, 58-62.
- Schultz-Hardt, S., Thurow-Kroening, B., Frey, D. (2009). Preference-based escalation: A new interpretation for the responsibility effect in escalating commitment and entrapment. *Organizational Behavior and Human Decision Processes, 108*, 175-186.
- Shrout, P. E., & Bolger, N. (2002). Mediation in experimental and nonexperimental studies: New procedures and recommendations. *Psychological Methods, 7*, 422-445.
- Shubik, M. (1971). The dollar auction game: A paradox in noncooperative behavior and escalation. *Journal of Conflict Resolution, 15*, 109-111.
- Sivanathan, N., Molden, D. C., Galinsky, A. D., & Ku, G. (2008). The promise and peril of self-affirmation in de-escalation of commitment. *Organizational Behavior and Human Decision Processes, 107*, 1-14.

- Staw, B. M. (1976). Knee-deep in the big muddy: A study of escalating commitment to a chosen course of action. *Organizational Behavior and Human Performance*, 16, 27-44.
- Staw, B. M., Barsade, S. G., & Koput, K. W. (1997). Escalation at the credit window: A longitudinal study of bank executives' recognition and write-off of problem loans. *Journal of Applied Psychology*, 82, 130-142.
- Staw, B. M., & Fox, F. (1977). Escalation: Some determinants of commitment to a previously chosen course of action. *Human Relations*, 30, 431-450.
- Steele, C. M. (1988). A threat in the air: How stereotypes shape intellectual identity and performance. *American Psychologist*, 52, 613-629.
- Steele, J. (1999). Warren Buffett: Master of the market. Avon Books: New York.
- Tajfel, H., Billig, M. G., Bundy, R. P., & Flament, C. (1971). Social categorization and intergroup behavior. *European Journal of Social Psychology*, 1, 149-177.
- Weinstein, N. D. (1980). Unrealistic optimism about future life events. *Journal of Personality and Social Psychology*, 39, 806-820.

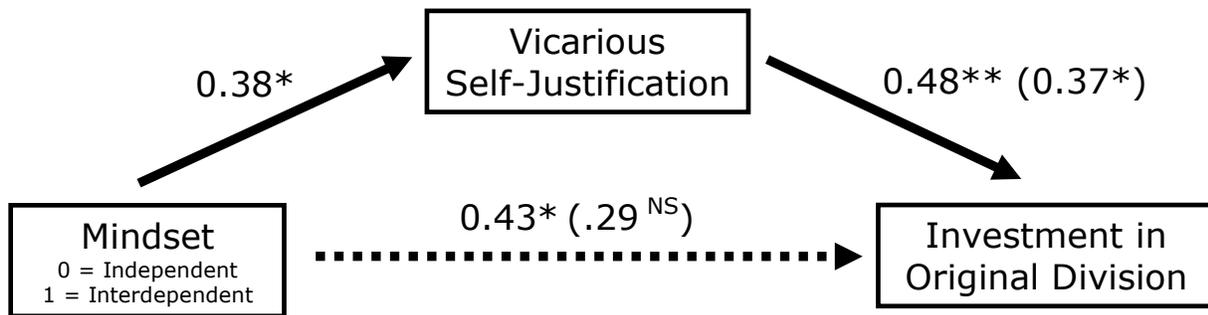
Table 1

*Mean level of escalation across all experiments (standard deviations in parentheses). Higher numbers indicate greater escalation to the prior decision-maker's initial decision.*

	<b>Experiment 1</b>	<b>Experiment 2</b>	<b>Experiment 3</b>	<b>Experiment 4</b>
Manipulation	Embedded Perspective-Taking vs. Objective	Primed Perspective-Taking vs. Control	Shared vs. Different Attributes	Primed Interdependence vs. Independence
Escalation Scenario	Investment Decision	Hiring Decision	Auction	Investment Decision
Unit of Measurement	\$ Million	Z-Scores	Number of Bids	\$ Million
Psychological Connection	5.29 (2.79)	0.23 (0.87)	4.00 (2.28)	5.45 (1.90)
Baseline (No Connection)	3.87 (2.13)	-0.23 (0.72)	2.52 (2.22)	3.33 (2.34)

Figure 1

Vicarious self-justification mediates the effect of psychological connection on escalation. Numbers represent standardized regression coefficients; numbers in parentheses represent simultaneous regression coefficients.



\* =  $p < .05$ , \*\* =  $p < .01$