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Picturing yourself: a social-cognitive process model to integrate third-person imagery effects

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ABSTRACT

People have a fascinating capacity to picture their actions from an external vantage point. Much of the research on this third-person imagery has focused on the specific effects it has on cognition due to the elements of episodic experience that it lacks relative to first-person imagery. Other research focuses on the information that the third-person provides that first-person imagery lacks. We propose a more systematic approach that conceptualises how third-person imagery's various effects interrelate due to a common underlying social-cognitive function. Specifically, we outline an integrative model proposing that third-person and first-person imagery cause people to adopt qualitatively distinct processing styles. This model explains many of the diverse effects that have been documented in the literature and helps reconcile seemingly discrepant findings. We conclude with recommendations for strategies to more systematically investigate the functions of visual perspective in mental imagery to build more comprehensive understanding of this phenomenological variable.

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> Somehow—and it probably had to do with long-ago fantasies—[Pam] took hold of the idea that she would become a nurse. So for a few weeks [she] looked into nursing courses, picturing herself filling syringes and taking blood and holding some old woman's bruised arm in an emergency room, having doctors glance at her respectfully; she saw herself (and maybe she'd finally look into Botox) speaking to young parents who were frightened out of their wits, like those mothers at school who weren't nice to her. She imagined herself striding through the swinging doors of an operating room, authoritative in all her gestures. (She wished nurses were still required to wear white uniforms and caps instead of the frumpish things they wore these days, all kinds of silly sneakers were allowed, and always those baggy pants.) She pictured herself administering blood transfusions, holding a clipboard, lining up a row of meds. (Strout, 2013, p. 247)

People have a curious capacity to picture themselves from an outside vantage point when they imagine or recall events from their lives. But what determines why people sometimes adopt this third-person visual perspective to picture themselves? An important component to answering this question is to consider what psychological function third-person imagery serves; and to understand its function, we can consider the various effects it has. To illustrate, consider some of the reasons why the character Pam may have used this perspective to picture herself as a nurse in the passage from Elizabeth Strout's novel *The Burgess Boys*. Since Pam did not yet have any experience in nursing, perhaps she was unable to imagine the concrete, insider feeling of being a nurse, and thus, she may have used third-person imagery because it is less dependent on having this concrete, insider information. Or perhaps Pam was squeamish about drawing blood and other types of close physical contact with sick patients, and using an outside perspective allowed her to visualise the scene with a sense of detachment that numbed her to any uncomfortable feelings. Alternatively, perhaps Pam took the third-person perspective because it provides insight into how others might see her if she took on the

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nurse's role. As such, understanding the various effects that the third-person perspective has on cognition suggests reasons why people might sometimes picture themselves from an external vantage point.

The speculations outlined above for reasons why Pam may have used a third-person perspective roughly map onto effects of third-person imagery that have been researched in-depth. However, narrowly-focusing on any single effect in isolation runs the risk of providing an incomplete and distorted understanding of the broader psychological function of third-person imagery. Thus, in this paper, we review the bodies of research investigating each of these effects of third-person imagery, while emphasising the importance of developing a theoretical model of a deeper underlying function of third-person imagery that can accommodate the variety of effects it produces. Further, we propose one such comprehensive framework that both integrates these bodies of research and indicates new directions to investigate aspects of the functional distinction between third-person and first-person imagery that were previously neglected. In doing so, we illustrate how a model seeking to provide a comprehensive account of the disparate effects of third-person imagery provides insight into its deeper psychological function, while also providing novel predictions that may otherwise go unexplored.

Previous research on the effects of third-person imagery

Interest in the phenomenon of visual perspective in mental imagery in psychological research can be traced back to a seminal article by Nigro and Neisser (1983) that introduced the distinction between first-person and third-person imagery, which they referred to as field and observer imagery. When a person visualises a scene from the third-person perspective, they imaginatively split themselves into a spectator self who watches the scene unfold and an actor self whose behaviour is being observed. By contrast, first-person imagery visualises how the scene would appear from a singular vantage point as the key actor within that scene. Nigro and Neisser's research focused on variation in whether people experienced first-person or third-person visual perspectives when they recalled autobiographical events. Subsequent work has documented that people experience first-person and third-person perspectives not just when they recall the personal past but also when they visualise imagined scenarios (e.g. Libby & Eibach, 2002). Research shows that most people instantly recognise the distinction between first-person and third-person imagery and can readily report which type of imagery they experience when they recall or imagine a given activity or event (e.g. Nigro & Neisser, 1983; Robinson & Swanson, 1993). Furthermore, people not only can spontaneously experience imagery from a first-person or third-person perspective, but they also can actively control which perspective they experience, for instance by following instructions to adopt the specified perspective in response to an experimental prompt (e.g. Frank & Gilovich, 1989; Robinson & Swanson, 1993; Vasquez & Buehler, 2007). Visual perspective in mental imagery thus appears to be a natural and highly flexible human faculty (Rice & Rubin, 2009, 2011; Robinson & Swanson, 1993).

When Nigro and Neisser (1983) launched research on this topic, they suggested that visual perspective in mental imagery may be more than just a curious feature of phenomenology. Indeed, they speculated that the perspective that a person adopts might depend on the purpose for which they are visualizing the event, which suggests that first-person and third-person perspectives may serve distinct social-cognitive functions. Further, they highlighted various potential uses of third-person imagery, including that it may be evidence of memory distortion as a "product of reconstruction" (p. 468), it may suggest a person is trying to be deliberately "detached about a past event" (p. 469), or it may occur as a consequence of an individual "actually being observed and evaluated—and [being] self-consciously aware of it" (p. 469). Subsequent research has tended to focus on one or the other of these proposed effects in order to provide insight into third-person imagery's psychological function. However, as we discuss below, while each of these effects provides valuable insights, focusing on any one in isolation has the potential to produce some misunderstandings about the nature of third-person imagery.

Third-person imagery as a reconstruction tool when episodic details are lacking

Interpretations of third-person imagery effects often assume that people adopt this perspective when they lack access to critical information about the

experience of the event, in particular, the concrete feelings and sensations conjured by the pictured scene (e.g. El Haj et al., 2019; Robinson & Swanson, 1993). The assumption that the first-person perspective captures lived experience with greater fidelity than the third-person perspective reflects a commonsense understanding that lived experience happens from a first-person perspective. Thus, one might assume that recalling or imagining an event from a first-person perspective is truer to lived experience than visualising it from the third-person perspective. Indeed, the first-person perspective is often taken for granted by many researchers as being the default perspective for episodic memory and imagining because it is assumed that the first-person perspective more closely matches the lived experience of whatever event is being pictured (e.g. Lind & Bowler, 2010; Piolino et al., 2006; Piolino et al., 2010), and because there is evidence showing that as the temporal distance from an event increases, imagery tends to drift from first-person to third-person (D'Argembeau & Van der Linden, 2004; Nigro & Neisser, 1983; Pronin & Ross, 2006; Robinson & Swanson, 1993; Talarico & Rubin, 2003). Notably, however, Nigro and Neisser (1983) questioned the assumption that lived experiences necessarily occur from a first-person perspective and pointed to cases in which people may adopt a third-person perspective to imaginatively observe themselves during live events.

Perhaps because of an assumption that the first-person perspective is the default perspective for mental imagery, many investigations of visual perspective's relation to the content of memory have tended to focus on features of lived experience that are absent when people picture an event from the third-person perspective. Such work emphasises that, relative to the first-person perspective, the third-person perspective entails less experience of concrete feelings and somato-sensory arousal connected to the pictured event (e.g. Basso et al., 2018; Christian et al., 2016; Eich et al., 2009; Macrae et al., 2013, 2016; McIsaac & Eich, 2002, 2004; Piolino et al., 2006; Sekiguchi & Nonaka, 2014; St. Jacques et al., 2017; Vella & Moulds, 2014). Consistent with this hypothesis, research shows that if participants adopt the third-person (vs first-person) perspective when they recall simple actions that they did in a prior laboratory session, they are less likely to mention the thoughts, feelings, and sensations that they reported when they were originally performing those actions (Eich et al., 2009; McIsaac & Eich, 2002). Furthermore, brain regions associated with affective processing and somato-motor representations are less active if people use the third-person (vs first-person) perspective when they recall memories for specific past actions (Eich et al., 2009). To summarise, this approach suggests that people would naturally adopt the first-person perspective if they were able to experience the internal feelings and sensations connected to an event; it is when they cannot generate such information that they resort to the third-person perspective.

Accordingly, focusing on the finding that third-person imagery tends to arise when people are unable to recall the concrete details of an event may suggest that third-person (vs first-person) imagery is indicative of a distorted or less accurate memory (e.g. Nigro & Neisser, 1983). Indeed, various studies have shown that when participants are asked to complete tasks and activities in the lab and then later recall their actions from either the first-person or third-person perspective, people are less accurate in their recall for details of the event with third-person (vs first-person) imagery (Bagri & Jones, 2018; Eich et al., 2009; McIsaac & Eich, 2002). However, it is important to note that the studies supporting this claim have tested a narrow range of the ways in which memory can be accurate, primarily testing the extent to which people can correctly recall specific concrete details or feelings from an event.

Further, by quantifying accuracy as the extent to which people are able to successfully retrieve specific bits of information, this approach treats memory as a storehouse of information (Koriat & Goldsmith, 1996) and prioritises verbatim memory for surface details over gist memory for essential meaning (Reyna, 2012). This approach thus fails to investigate many of the ways memory operates in everyday life, specifically by excluding a consideration of memory's critical role in helping create a coherent self-narrative (Conway, 2005; Conway & Pleydell-Pearce, 2000; McLean, 2005; Roediger & Marsh, 2003). Importantly, conceptualising memory as a representation of a past episode (rather than merely a storehouse of information) indicates that another critical component of memory accuracy is how well the representation corresponds with reality (Conway et al., 2004; Koriat & Goldsmith, 1996). Focusing on

correspondence allows for the possibility that memories can provide accurate representations of events at a broader level, even if a person forgets (or misremembers) inconsequential details of a scene.

For instance, in a detailed analysis of John Dean's testimony on the Watergate scandals, Neisser (1981) highlights how, even despite various inaccuracies in the details of the events compared to the recorded transcripts, Dean's memory was still quite accurate in relation to the overarching purpose of his testimony: the recordings validated his recollection of the gist of the events discussed in various conversations, as well as of the people involved in the conversations and their knowledge of the events surrounding the conspiracy. That is, although his memory may have been inaccurate for some specific details, it was accurate in the ways that were critically important for the purposes of his providing a testimony in the trial.

Unfortunately, as mentioned earlier, studies testing imagery perspective's effect on memory accuracy primarily use designs that focus on the amount of specific details participants can correctly recall, rather than testing if differences emerge in how well memories from each perspective correspond to reality. This narrow focus means that the literature has yet to test perspective's impact on other ways in which memory accuracy might differ depending on visual perspective. Indeed, there is some evidence suggestive with the possibility that third-person imagery could sometimes improve accuracy.

For instance, Cognitive Interview approaches explicitly instruct people to recall events from different visual perspectives (among other strategies) in order to help people provide a more complete recollection (Geiselman et al., 1986). Similarly, differing which character's perspective people focus on when reading a narrative influences their recall by leading them to highlight information in the narrative that is relevant to each character's motivations (Anderson & Pichert, 1978). These findings suggest that third-person imagery may lead to a different type of accuracy by shifting people's focus to consider how the event coheres to a broader narrative, their life story, etc. And, testing if third-person imagery might improve memory in this way has the potential to hold important theoretical implications for our understanding of the functions of third-person imagery itself.

Specifically, evidence that third-person (vs first-person) imagery improves correspondence between a memory and a past event would suggest that people might not only use third-person imagery because they no longer recall the details of an event. Instead, it would suggest that people might sometimes use third-person imagery because their goal is to form a coherent representation of the event, rather than store specific details. Thus, while research in this area has provided valuable insight into how the third-person (vs first-person) perspective affects the concrete details in imagery and the implications this has for a certain type of accuracy, narrowly-focusing on this effect runs the risk of creating an incomplete understanding of its functional role and its relation to memory accuracy more broadly.

Third-person imagery as a form of detachment to dampen emotion

Another prevalent assumption about third-person imagery is that it mentally distances people from the direct experience of the event, thus necessarily dampening the event's emotional impact. By this account, recalling an event from the third-person perspective reflects a lack of emotional connection to an event, or an effort to emotionally distance from it. On the one hand, there is a good deal of converging evidence that third-person imagery can be related to reduced intensity of emotional response when thinking about an event and that people can employ third-person imagery for this purpose. However, on the other hand, evidence relevant to the assumed mechanism by which perspective produces such effects brings into question the notion that emotion-dampening is a fundamental function of third-person imagery.

In their seminal paper, Nigro and Neisser (1983) manipulated the instructions participants received for describing a set of life event memories. Participants instructed to describe the objective circumstances of the events were more likely to picture them from the third-person perspective than participants instructed to describe the feelings they had experienced during the events or participants who were given no specific instructions on what to describe (who did not differ in perspective use from the feelings-focus condition). As mentioned earlier, additional research documented the opposite causal path as participants recalled simple actions they had been instructed to perform in an earlier lab session: using the third-person (vs first-person) perspective produced less recall of affective reactions (McIsaac & Eich, 2002) and less

reactivation of brain regions associated with affective processing and somato-motor representations (Eich et al., 2009).

Other work has investigated how imagery perspective relates to individuals' present emotional experience while picturing events, indicating that third-person (vs first-person) imagery sometimes leads participants to experience less intense feelings as they picture the events (Holmes et al., 2008). Additionally, instructing participants who initially recall an event from the first-person perspective to shift to the third-person perspective can reduce the feelings they experience at recall (although instructing those who initially recall from third-person to shift to first-person does not increase the feelings people experience at recall; Robinson & Swanson, 1993; Williams & Moulds, 2008).

Much of the work investigating how imagery perspective relates to emotional response is correlational in nature and has been motivated by an interest in clinical implications. In this context, it is assumed that the third-person perspective functions to psychologically distance the current self from a negative or threatening event as an avoidant coping strategy in order to reduce the likelihood of experiencing negative feelings associated with the event (e.g. Kenny & Bryant, 2007; Kenny et al., 2009; Williams & Moulds, 2007a, 2008). Indeed, various researchers emphasise work in which the third-person perspective is associated with greater phenomenological distance from the self depicted in the event compared to the first-person perspective (Potheegadoo et al., 2013; Pronin & Ross, 2006; Skowronski et al., 2015). As such, some researchers postulate that picturing events from the third-person perspective blunts their emotional impact because it dissociates the event from the present self (e.g. Macrae et al., 2016; Skowronski et al., 2015).

Consistent with this hypothesis, when a sample of people with post-traumatic stress disorder recalled a traumatic memory, those who reported recalling the memory from the third-person perspective rated the memories as less emotional and less anxiety-provoking than those who reported recalling from the first-person perspective (McIsaac & Eich, 2004). Indeed, many of these individuals reported that they adopted the third-person perspective in order to protect themselves from reliving the trauma.

In another study, when participants were instructed to recall intrusive negative autobiographical memories, use of the third-person perspective was correlated with greater detachment and numbness about the recalled event compared to use of the first-person perspective (Williams & Moulds, 2007a). Also, when people who were spontaneously experiencing intrusive negative memories from a first-person perspective were experimentally induced to recall these memories from a third-person perspective, this shift from first-person to third-person led to reduced feelings of distress and lower vividness of the memories (Williams & Moulds, 2008). However, such short-term benefits of using the third-person perspective to avoid the negative emotional arousal of reliving trauma may have longer-term negative consequences if avoidance of reliving these emotions prevents people with post-traumatic stress disorder (PTSD) from engaging in emotional processing work that may be essential for recovery (McIsaac & Eich, 2004).

Thus, various studies have demonstrated instances in which third-person imagery has an emotion-dampening effect. However, in the context of the broader literature on psychological distance and emotion, there is reason to question if third-person imagery always has this effect. The logic for why third-person imagery would dampen emotion rests on the idea that third-person imagery simulates an event from a vantage point that is more distant from direct experience (e.g. Holmes et al., 2008). However, the broader literature on psychological distance and emotion reveals that distance from physical experience does not necessarily reduce intensity of feelings and can sometimes even increase it.

In particular, distance promotes abstraction, and abstraction can have divergent effects on intensity of emotion, depending on the basis for that emotion. Specifically, the closer one is to direct physical experience of an event, the more concretely they construe it; the more distant they are, the more abstractly they construe it (Trope & Liberman, 2010). This is true both with regard to actual physical distance and with other dimensions of psychological distance (time, social distance, and hypotheticality; Bar-Anan et al., 2007). It is also the case that emotional response to an event does not follow directly from its objective features but depends on people's subjective appraisal of the event's meaning (e.g. Lazarus, 1991; Smith & Ellsworth, 1985). Further, emotion can reflect appraisals not just on concrete dimensions but on abstract

dimensions as well (Doré et al., 2015). Together, these features of psychological distance and emotion lead to the prediction that the effect of distance on intensity of emotion should depend critically on whether the emotion reflects a concrete or abstract appraisal of the event. Indeed, evidence across a range of emotions demonstrates that when an emotion reflects a concrete appraisal, distance dampens emotion; however, when an emotion reflects an abstract appraisal, distance can intensify the emotion (Bornstein et al., 2020; Doré et al., 2015; Katzir & Eyal, 2013; Moran et al., 2021).

For example, one investigation considered the effect of physical distance on feelings of sadness and anxiety in response to the Sandy Hook elementary school shooting in Newtown, Connecticut (Doré et al., 2015). Although sadness and anxiety are both negative emotions, they differ in their defining appraisal. Loss is a defining theme for sadness whereas uncertain threat is a defining theme for anxiety (Lazarus, 1991). It was predicted that by highlighting the specific details of how the event unfolded, concrete construal would heighten a focus on the tragic loss of life, whereas by highlighting broader concerns about the causes of the event, abstract construal would heighten a focus on the negative uncertainty posed by ongoing threat of gun violence in the United States. Thus, given the effect of distance on abstraction, distance should reduce sadness but increase anxiety. Indeed, evidence for this prediction emerged across analysis of tweets based on physical distance from the location of the shooting and an experimental study that manipulated whether people thought about the event in concrete or abstract terms.

This evidence that distancing has the potential to increase or decrease emotion, depending on the basis for that emotion, casts doubt on the assumption that third-person imagery necessarily has an emotion-dampening effect, suggesting that this assumption may reflect an incomplete picture of perspective's basic psychological function.

Third-person imagery as a representation of how the self appears to others

So far, the approaches we have reviewed emphasise how the third-person perspective reduces people's access to certain types of information, such as experiential details or emotion. However, other research has focused on the idea that third-person imagery, via the content it highlights by its very nature, enhances the accessibility of key types of information for understanding events in people's lives. Specifically, third-person imagery affords people the opportunity to consider how their bodily self and actions appear to others, encouraging them to ensure that their behaviour is appropriate and to consider the world from a less egocentric vantage point (Cohen et al., 2007). Consistent with the hypothesis that the third-person perspective affords greater access to information about how one's actions appear to external observers, research shows that when participants are induced to adopt the third-person (vs first-person) perspective while recalling specific actions that they did in a prior session, they are more likely to recall details that would be salient to external observers, such as their physical appearance, what actions they did, and the location of various objects in the setting (Eich et al., 2009; McIsaac & Eich, 2002).

Focusing on how third-person imagery provides distinctive information about how one's self and actions appear to others, various researchers have suggested that people who are particularly concerned with considering others' opinions may be more likely to use third-person imagery. Indeed, consistent with this interpretation, people from collectivist cultures that emphasise an interdependent view of the self and value group harmony show an increased preference for using third-person imagery, relative to individualistic cultures that emphasise an independent view of the self (e.g. Cohen et al., 2007; Cohen & Gunz, 2002; Martin & Jones, 2012). Further, participants from cultures that emphasise interdependence, report that the majority of the images that they experience during episodes of mind-wandering are experienced from the third-person perspective; by contrast, those from cultural backgrounds that emphasise independence report majority first-person images (Christian et al., 2013). Additionally, this preference appears to stem from the value third-person imagery can provide in seeing the self through others' eyes, as people from these cultures do not always show a preference for third-person imagery, but specifically do so when thinking about situations in which their behaviour is likely to be viewed by others or when they are primed to think about their close others (Cohen et al., 2007). Furthermore, within a given culture, norms and influences can lead certain individuals to be more likely to use third-person imagery. For example, cultural practices of sexually objectifying

women's bodies can become internalised, leading women to be more likely to use third-person imagery to think about themselves, particularly in objectifying situations (Huebner & Fredrickson, 1999).

Other research in the clinical domain has shown that people suffering from mental conditions that cause them to be particularly concerned with how they appear also tend to be more likely to use third-person imagery. For instance, people with body dysmorphia and bulimia nervosa (that is, people who have obsessive concerns with how they look) are more likely to use third-person imagery when thinking about themselves (Cili & Stopa, 2015; Osman et al., 2004). Similarly, people with social anxiety disorders and social phobia, which often encompasses a preoccupation with self-relevant thinking and concern for how one is perceived in social situations (Clark & Wells, 1995; Rapee & Heimberg, 1997), also use more third-person imagery than non-anxious controls (Coles et al., 2002; D'Argembeau et al., 2006; Wells et al., 1998). And, similar to the cultural work discussed above, this preference for third-person imagery is not a general indiscriminate tendency: people with social phobia show this tendency when thinking about social situations where it is relevant, but not when thinking about non-social situations (D'Argembeau et al., 2006).

Furthermore, taking a third-person (vs first-person) perspective during situations where people commonly experience social anxiety appears to exacerbate thoughts about being harshly evaluated by others. For instance, participants who were induced to take a third-person visual perspective while giving a speech reported more negative self-evaluative thoughts ("People will think badly of me.") and greater anxiety compared to participants who were induced to take a first-person perspective (Spurr & Stopa, 2003). That is, in contexts where individuals are prone to experience negative social emotions, adopting the third-person perspective can cause them to experience heightened concerns about what others think of them, rather than the alternative possibility that individuals who are particularly prone to evaluative concerns use the third-person perspective in order to distance themselves from these concerns. Further supporting this interpretation, other research shows that, rather than necessarily distancing people from the pictured self, among people who have particularly positively-biased views of the self (i.e. narcissists), viewing the self from a third-person (vs first-person) vantage point increases the positivity they feel (Robins & John, 1997).

Thus, by focusing on how the third-person perspective provides information about how the self appears in a situation, researchers in this area have documented numerous cases in which third-person (vs first-person) imagery is associated with greater concern about how one's self and actions are likely to be judged by others. Thus, based on this evidence, one might assume that adopting the third-person (vs first-person) perspective on an event would necessarily lead people to base their responses to the event more on their beliefs about how other people would perceive them and less on their own personal values and attitudes. However, this is not always the case. For instance, the research on narcissists found that these individuals were even more prone to engage in self-enhancement when judging their behaviour after viewing it from a third-person (vs first-person) vantage point, indicating that they were basing their evaluations more strongly on their inflated self-views with third-person imagery (Robins & John, 1997). Additionally, other research with visual perspective indicates that, rather than amplifying people's tendency to take into account how others might view their actions, third-person imagery may instead enhance the tendency to interpret actions in terms of their personal beliefs and attitudes (Libby et al., 2014). Specifically, a manipulation of the visual perspective that White participants used to visualise themselves interacting with a Black partner did not moderate the relation between the motivation to avoid appearing prejudiced to others and forecasted anxiety about the interracial interaction, which is contrary to the assumption that third-person imagery magnifies people's tendency to take into consideration others' views of their actions. Instead, participants' forecasted anxiety about the interaction was predicted more strongly by their personal motivation to avoid prejudice in the third-person condition than in the first-person condition, which indicates that visual imagery perspective may enhance the tendency to apply one's own values and attitudes when interpreting events.

This latter finding fits with research on construal level theory which shows that other variables that lead people to construe a situation more abstractly reduce the likelihood that they align their

interpretations with the perspective of other relevant parties and increases the likelihood that they will base their interpretation on their own distinctive beliefs and attitudes (Ledgerwood et al., 2010). Indeed, in a series of studies (Ledgerwood et al., 2010), when individuals were induced to construe an issue in abstract (vs concrete) terms, they were less likely to align their attitudes with the known attitudes of an interaction partner and instead their attitudes towards the issue were more consistent with their personal beliefs and attitudes.

Thus, by narrowly-focusing on how third-person imagery affords people access to information about how the self appears from an outside vantage point (Eich et al., 2009; McIsaac & Eich, 2002), researchers have designed studies to demonstrate how this can cause people to focus on what others may think of them and their actions. However, additional empirical evidence suggests that this provides an incomplete picture of third-person imagery's effects, as a third-person perspective does not necessarily cause people to focus on what others think of them and their actions, but can instead focus them on what they think about themselves and their own actions. This suggests that third-person imagery may do more than simply provide information about how the self appears in a given situation. Specifically, next, we will discuss how, beyond adding information about the self's appearance, the use of third-person imagery might provide deeper, qualitative shifts in how people understand events.

Perspective and processing style: an integrative model of imagery perspective effects

We have reviewed the research on three major effects of third-person imagery: reduced episodic detail, reduced emotional reactions to the specifics of the pictured event, and increased awareness of how the self appears to others. However, as discussed above, there is reason to doubt whether any of these effects represent the primary underlying function of third-person imagery. Further, given the disparate array of findings when looking across the research on each of these effects, this possibility seems even less likely. That is, it would be difficult to explain all the findings in each research area as being reducible to one of third-person imagery's other effects. Indeed, in certain places, the findings in these research areas produce seemingly-contradictory results: for instance, although third-person imagery is often assumed to dampen-emotionality, it has also been shown to increase emotion in certain situations (e.g. Spurr & Stopa, 2003). Thus, it is productive to consider whether there are more fundamental processes that might account for the seemingly disparate effects of third-person imagery. Doing so provides the opportunity to not only gain a deeper understanding of the psychological function of third-person imagery, but also offers novel predictions about other effects third-person imagery might have that would otherwise go untested.

Together with our collaborators, we have been investigating one such mechanism in a long-standing programme of research. In this work, we have identified a function of imagery perspective that operates not by depicting different informational content about the scene, but by shaping the way people process that content. Specifically, our programme of research converges on the notion that the two perspectives differentially facilitate two qualitatively distinct styles of processing. According to our account, perspective influences processing by determining the starting point in the understanding of events (Libby & Eibach, 2011b). First-person imagery supports a processing style in which people's understanding of, judgments about, and emotional reactions to an event emerge from the low-level associations and particular sensations evoked by the concrete features of the pictured event. Third-person imagery supports a processing style in which people's understanding of, judgments about, and emotional reactions to an event follow from a coherent integration of the pictured event with other high-level relevant knowledge according to the logic that governs an abstract belief system.

This conceptualisation connects with a wide array of research in other domains highlighting how different modes of processing can create divergence in people's reactions to a given event (Gawronski & Bodenhausen, 2007; Gilead et al., 2020; Olson & Fazio, 2008; Rydell & McConnell, 2006). When factors cause people to process information in ways that encourage reliance on intuitions (Jordan et al., 2007), gut reactions (Kendrick & Olson, 2012), their immediate experience without elaboration (Koole et al., 2009), etc., they tend to form judgments in accordance with their implicitly-measured low-level associations toward

stimuli (Gawronski & Bodenhausen, 2007; Gilead et al., 2020; Olson & Fazio, 2008; Rydell & McConnell, 2006). In contrast, when factors cause people to process information in ways that encourage them to consider how information relates to their broader self-narrative (e.g. Zunick et al., 2015) or respond in ways that match their endorsed beliefs (Olson & Fazio, 2008), they tend to form judgments in accordance with their explicitly-measured propositional beliefs and that cohere with their high-level belief systems (Gawronski & Bodenhausen, 2007; Gilead et al., 2020; Olson & Fazio, 2008; Rydell & McConnell, 2006).

Similarly, our model proposes that first-person and third-person imagery differentially evoke these distinct types of processing styles, thereby qualitatively shifting the basis for people's judgments about a pictured event. Consistent with this account, we find that visual perspective fundamentally changes how people construe actions: instructing people to use third-person (vs first-person) imagery to visualise the same hypothetical action causes them to construe the action more abstractly (Libby et al., 2009; cf., Hart-Smith & Moulds, 2019). Further, these shifts in abstraction driven by imagery perspective can hold important consequences for people's subsequent motivation to actually carry out goal-directed actions they picture (Libby et al., 2007; Vasquez & Buehler, 2007). Additionally, just as abstract (vs concrete) thinking increases the impact of people's self-theories on their judgments, so to do manipulations of third-person (vs first-person) imagery (Kille et al., 2017). Thus, these findings provide initial evidence that third-person imagery may have its effects via more fundamental shifts in changing the starting point of how people process a pictured scene. Next, we outline two approaches we have taken to further test this processing style mechanism while highlighting the novel insights it provides about third-person imagery.

Testing processing style in domains where low-level associations and high-level beliefs diverge

Following the model of other research on distinct processing styles, one way to detect processing style effects of each perspective is to assess people's judgments in situations where their associations and endorsed beliefs diverge (Gawronski & Bodenhausen, 2007; Gilead et al., 2020; Olson & Fazio, 2008; Rydell & McConnell, 2006). For example, people may genuinely endorse egalitarianism and, at the same time, experience negative associations toward outgroup members. Consistent with the idea that the two perspectives differentially facilitate reliance on distinct processing styles, perspective determines the extent to which people's construction of events reflects their high-level endorsed beliefs vs their low-level associative evaluations (Libby et al., 2014; Niese, Libby, Eibach, & Carlisle, 2019; Niese, Libby, Fazio, Eibach, & Pietri, 2019).

For instance, as discussed above, when imagining an interracial interaction, people's expectations about how anxious they would be reflect their implicit interracial attitudes more when they are induced to picture the interaction from the first-person (vs third-person) perspective; but reflect their explicit racial attitudes more when they are induced to picture the interaction from the third-person (vs first-person) perspective (Libby et al., 2014). Similarly, people's beliefs about their optimism (Niese, Libby, Fazio, Eibach, & Pietri, 2019), personal interests (Niese, Libby, Eibach, & Carlisle, 2019), attachment anxiety (Marigold et al., 2015), self-esteem (Kille et al., 2017; Libby et al., 2011), political preferences (Libby et al., 2014), and theories of self-change (Libby et al., 2005) all shape people's reactions to life events more strongly when they picture them from the third-person versus first-person perspective. Notably, third-person imagery's facilitation of the impact of people's broader high-level belief systems holds while accounting for its effect of dampening the impact of people's low-level experiential reactions to objects in the pictured scene.

Thus, our processing style account of third-person imagery's psychological function predicts (and finds robust evidence for) another effect of third-person imagery which may initially seem counter-intuitive: because it leads people to evaluate an event in relation to broader beliefs systems, adopting a third-person vantage point (vs one's own first-person vantage point) causes people's judgements to align more closely with their self-beliefs. That is, when people are picturing events in their own lives, this effect of perspective on subjective meaning shapes how memories and imagined future events relate to the self. Indeed, memory and imagination are critical parts of the self (e.g. Conway, 2001; Neisser, 1994; Tulving, 2002), and it has long been noted that the human sense of self is dual-faceted, involving an experiential awareness

of the present moment ("I-self") and a conceptual representation of the self as an entity that persists across time ("me-self"; e.g. Damasio, 1994; Epstein, 2003; Gallagher, 2000; James, 1890/1950; LeDoux, 2003; Wilson, 2002). So, it is necessary to consider which facet of the self that memory and imagination connect with. By representing events concretely, first-person imagery should be well-suited to representing an event in terms of the I-self. By representing events abstractly, third-person imagery should be well-suited to representing an event in terms of the me-self: When picturing an event in one's own life, the self-concept is a ready structure to guide abstraction. In this way, by testing a processing-style account of the effects of visual perspective, our work suggests another critical effect of third-person imagery in the facilitation of linking specific events to narratives and themes that define the self-concept.

Testing processing style via carryover effects

Another way to detect processing style effects is to test if a manipulation (in this case, third-person vs first-person imagery) influences people's judgments on a subsequent unrelated task (Fujita et al., 2006). Along with our collaborators, we have also used this approach to test the hypothesised processing style function of visual perspective. This research uses pairs of photographs to manipulate imagery perspective. These photographs depict everyday actions (e.g. wiping up a spill, wrapping a gift). For each action, there is a photograph shot from the first-person and from the third-person perspectives (see Figure 1). While varying perspective, the photographs for each action hold constant the objects in the scene, distance to the action, and visual angle. Thus, this manipulation isolates the effect of orientation on an action, apart from the scope of the image, the objects included, and who the actor/observer is. We have used these photographs to obtain converging evidence that our predicted effects of perspective reflect processing style rather than information in the image specific to the target judgment. We present a series of action photographs as primes, manipulating perspective between participants. Then, we test for carryover effects on responses to an unrelated target event, as an indicator of a processing style mechanism (similar to Fujita et al., 2006). Using this procedure, we replicate effects from studies that instructed participants to mentally picture the target event from the first-person or third-person perspective (Niese, Libby, Eibach, & Carlisle, 2019, Niese, Libby, Fazio, Eibach, & Pietri, 2019; Shaeffer et al., 2015).

For example, using the photograph primes, we conceptually replicated the finding that memory perspective influences the basis for people's memory of how interesting they found a past activity (Niese, Libby, Eibach, & Carlisle, 2019). When people picture themselves engaging in a past activity from the third-person perspective, their memory of how interesting it was reflects their self-beliefs about how interesting they find the domain. However, when they use the first-person perspective, their memory reflects how interesting they actually found that particular task to be. This effect is important because people's self-beliefs about their interests can reflect influences, such as internalised cultural stereotypes, other than their actual experience of interest. We explored these implications in a study that conceptually replicated the effect of mental imagery with the photograph manipulation (Niese, Libby, Eibach, & Carlisle, 2019). In this study, female students completed an ecosystem simulation game, then immediately viewed the photo primes for a few minutes before reporting how interesting the game was. Third-person photos made the women insensitive to how interesting the game actually was; their reports reflected their preconceived beliefs about their interest in science. First-person photos made the women put aside those beliefs; their reports reflected how interesting the game actually was. Thus, this work not only provides convergent evidence for the processing style function of visual perspective, but it also highlights how a theory about third-person imagery's psychological function as being based in a more fundamental processing shift provides novel predictions and insight. Specifically, rather than the effects merely being driven by third-person imagery shifting people's focus on different information in the pictured scene, conceptualising each perspective as evoking a distinct processing style allows for the prediction that these processing styles can be evoked by external images (vs only via mental imagery) and can affect people's judgments and behaviours in subsequent tasks unrelated to the third-person (vs first-person) image itself.

Thus, seeking to explain the specific effects of visual perspective via more basic underlying processes can prove a generative approach to providing novel insights about the function of third-

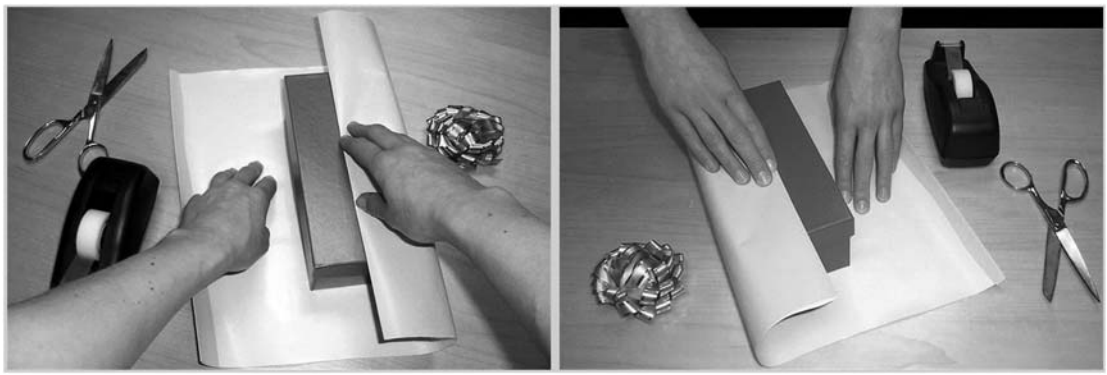

Figure 1. An example of the photograph pairs used to depict everyday actions (here, wrapping a gift) from the first-person (left) or third-person (right) perspective while holding constant the number of objects in the scene, distance to the action, and visual angle.

person imagery, as illustrated here using a model that seeks to understand the psychological functions of imagery perspective as being driven by shifting more basic processing styles. Indeed, this approach has provided evidence for numerous novel effects of third-person imagery (e.g. increasing abstraction, increasing the impact of self-beliefs, creating carry-over effects on subsequent judgments).

Integrating previously-documented effects of third-person imagery

Developing a model of the psychological function of third-person imagery also offers the opportunity for integrating various disparate effects of third-person imagery into a unified model. To illustrate, we next return to each of the three major effects of third-person imagery explored in other research (i.e. reduced episodic detail, reduced emotional reactions to the specifics of the pictured event, and increased awareness of how the self appears to others) and discuss how our processing style model accounts for these findings. In doing so, we seek to not only integrate these various effects, but also highlight how a processing style model offers novel, testable predictions in each of these research areas that have the potential to deepen our understanding of third-person imagery.

New insights into third-person imagery as episodic representation

As reviewed earlier, people may sometimes use third-person imagery because they lack the experiential detail to form an episodic representation from the first-person perspective. Such an explanation is consistent with our processing style account: because first-person imagery evokes a processing style that is grounded in details of the specific event, lacking these details may cause people to rely on third-person imagery to construct an understanding of the scene instead. Thus, our processing style account makes predictions supported by work suggesting that people sometimes use third-person imagery due to a lack of experiential detail.

However, reasons other than a lack of episodic detail could prompt people to use the type of processing style evoked by third-person imagery (e.g. Conway, 2001; Trope & Liberman, 2010; Wakslak et al., 2008; Zunick et al., 2015). As such, an account that highlights the role of third-person imagery in facilitating this type of processing suggests another independent effect of the third-person perspective in episodic representation: emphasising the high-level broader meaning of events. Such an effect may be overlooked in existing research testing differences in memory quality between first and third-person imagery if the study designs limit the operation or measurement of high-level meaning goals.

For example, some experiments test memory for experiential details of target events that have limited "broader meaning", such as a series of manual tasks defined by an experimenter (e.g. Marcotti & St. Jacques, 2018; McIsaac & Eich, 2002). The act of lifting a barbell because the experimenter directed you to has little potential for bigger meaning, compared with the same act carried out as part of a personal effort to get in shape. Thus, measuring the effect of perspective on memory

for lab tasks may not allow for capturing an advantage with third-person for defining the bigger meaning of the event. Further, in order to capture such an effect, it is necessary to measure it. Regardless of whether they focus on memory for lab tasks or real life events, studies documenting a deficit of memory for detail associated with third-person imagery have not, to our knowledge, included measures of memory for broader implications or accessibility of thematically related events. However, studies that have focused on third-person imagery's function of facilitating a more coherence-seeking processing style have produced evidence that third-person imagery enhances recall of thematically related events (Libby et al., 2011). In short, if not allowing for or measuring bigger meaning, then its relation to third-person imagery goes undetected.

Thus, our processing style account suggests an avenue for future research to design studies that allow for simultaneous detection of how both a lack of detail and an interest in bigger meaning can independently influence perspective. Further, by primarily focusing on studies that test memory accuracy via people's ability to recall specific details of an event, the current literature may give the impression that third-person imagery is necessarily a marker of distorted or inaccurate memory. However, memory accuracy should not merely be defined in terms of the amount of specific details one can remember; it is also critical to consider how well the memory corresponds with the past event (Conway et al., 2004; Koriat & Goldsmith, 1996). Importantly, our model suggests that third-person imagery, by evoking a processing style that is concerned with understanding the bigger meaning of events, has the potential to improve memory on this dimension. Thus, it is important to test these predictions as it may suggest that rather viewing one perspective or the other as being an indicator for better memory overall, they may instead each enhance memory for different aspects (e.g. verbatim memory for specific details vs gist memory for the broader meaning) of a past event.

New insights into third-person imagery and emotionality

As reviewed earlier, numerous studies document instances in which third-person imagery can dampen emotionality. However, research investigating the effect of psychological distance on emotional intensity demonstrates that the effect depends on the nature of the appraisal underlying that emotional response. When an emotion reflects a concrete appraisal, distance dampens emotion; however, when an emotion reflects an abstract appraisal, distance can intensify the emotion. Our model's proposed effect of perspective on processing style leads to a parallel hypothesis about the effect of perspective on emotion. Specifically, the effect of third-person (vs first-person) imagery depends on the nature of the appraisal underlying that emotional response: When an emotion reflects a concrete appraisal, third-person imagery dampens emotion; however, when an emotion reflects an abstract appraisal, distance could intensify emotion.

Our model is not the only one to predict conditions under which third-person imagery should increase emotion. By a competing account, the critical modifier of perspective's impact on emotion is whether emotions are self-conscious (e.g. pride, embarrassment, shame) or hedonic (e.g. excitement, sadness, distress; Hung & Mukhopadhyay, 2012). The proposed mechanism has to do with the effect of imagery perspective on the visual contents of images. Because third-person imagery visually focuses on the self, self-conscious emotions should be greater with third-person (vs first-person) imagery; because first-person imagery visually focuses on the situation (the assumed trigger of hedonic emotions), hedonic emotions should be greater with first-person (vs third-person imagery). Evidence seeming to support this prediction emerged when participants recalled and imagined self-control successes and failures, and when they imagined an exciting, but potentially embarrassing, experience (Hung & Mukhopadhyay, 2012).

By our account, a critical mechanism by which perspective influences emotion is via processing style, apart from the content that the image depicts, and the implications processing style has for the appraisals underlying emotions. To the extent that, on average, self-conscious emotions may follow from more abstract appraisals than hedonic emotions do (Katzir & Eyal, 2013), our account could explain why, on average, third-person imagery might facilitate self-conscious emotions and dampen hedonic ones. However, evidence demonstrates that third-person imagery does not always heighten self-conscious emotions (Katzir & Eyal, 2013), and can even reduce self-conscious

emotion (Libby et al., 2011; Valenti et al., 2011), depending on how the event relates to the person's broader meaning frameworks that are activated by third-person imagery according to our model. Considering the full range of evidence for the role of perspective on emotion, our processing style account offers a more coherent explanation than does the idea that the effect of perspective depends on whether the emotion is self-conscious or hedonic. Our account also identifies novel questions for future research.

Considering the range of evidence where third-person imagery produces greater emotional response reveals that the moderating effect of emotion on perspective's effect corresponds better with the nature of the appraisal underlying the emotion than with whether the emotion is self-conscious or hedonic. For example, the positivity of individuals' general self-beliefs shapes their experience of the self-conscious emotion, shame, in response to failure: those with low self-esteem are more prone to experience shame (Brown & Marshall, 2001; Kernis et al., 1989). Our account predicts that, due to perspective's effect on processing style, picturing a personal failure from the third-person (vs first-person) perspective would facilitate appraisal of failure's meaning in relation to general self-beliefs, thus increasing shame for those with low self-esteem but decreasing shame for those with high self-esteem. Indeed, data reveal such a pattern, both when manipulating the perspective people use as well as when measuring the perspective they spontaneously adopt (Libby et al., 2011).

Another example of third-person imagery increasing emotional response involves the emotion of regret. Regret is a self-conscious emotion, but it can take different forms depending on whether it pertains to an action or inaction, and the pattern of these differences is relevant to distinguishing between accounts of how perspective shapes emotional response. When actions are regrettable, it tends to be due to their immediate, concrete consequences experienced at the time the action occurred, whereas when inactions are regrettable, it tends to be due not to immediate consequences (there are often none) but rather to the broader implications of the event for the trajectory of one's life (Gilovich & Medvec, 1995). Regret also has distinct experiential differences depending on whether it stems from action or inaction: action regret tends to be "hot" whereas inaction regret is more "wistful" (Gilovich et al., 1998). It might be expected that the hotter quality of action (vs inaction) regret would be defined by greater intensity of hedonic emotions such as anger and frustration. However, in fact, it is the greater intensity of self-conscious emotions (e.g. shame and embarrassment) that characterises the hotter experience of regret of action vs inaction, and to the extent that the two types of regret differ in the experience of non-self-conscious hot emotions (anger, disgust, frustration, irritation), it is regrets of inaction that are higher (Kedia & Hilton, 2011).

Given these differences in the temporal dynamics and experiential qualities of the two types of regret, our account of perspective's function and the alternative account lead to opposite predictions about perspective's effect on regret about actions vs inactions. If the self-conscious vs hedonic nature of the emotion is critical, third-person imagery should increase regret over actions, but not inactions (by amplifying self-conscious emotion, which is more characteristic of action vs inaction regret). On the other hand, if our proposed effect of perspective on processing style is critical, third-person imagery should decrease regret over actions (by dampening the experiential simulation of the original event) but increase regret over inaction (by facilitating abstract appraisal of the event's meaning in the context of one's life). Indeed, evidence confirms the predictions of our model (Valenti et al., 2011).

In other cases, third-person imagery has been shown to increase emotions that do not clearly involve a self-conscious component. The alternative in which third-person imagery's increasing emotion depends on the emotion's self-conscious nature cannot explain such findings, although our model can. For example, the effect of perspective on distress about relationship transgressions depends on attachment anxiety in a pattern that is analogous to that observed for shame in response to failure. Third-person (vs first-person) imagery produces greater distress amongst those high in attachment anxiety whereas, if anything, third-person imagery produces lesser distress amongst those low in attachment anxiety (Marigold et al., 2015). Considering the role of general relationship-beliefs in shaping reactions to relationship transgressions (Collins et al., 2006; Feeney, 2004), this pattern is analogous to that observed for shame in response to failure, yet with an emotion that is not inherently self-conscious.

Another example of third-person imagery increasing a non-self-conscious emotion comes from research that manipulated the perspective individuals used to picture themselves voting in an upcoming presidential election (Libby et al., 2007). Third person imagery caused individuals to feel more excited about the election as they pictured themselves voting, and this greater positive arousal with third-person imagery accounted for the stronger commitment to voting that third-person imagery produced (feelings of commitment that carried over to higher rates of actually voting on election day; Libby & Eibach, 2011b). This result is in stark contrast to the idea that third-person imagery increases self-conscious emotion and decreases hedonic emotion. However, it is entirely consistent with the idea that third-person imagery increases emotions that follow from abstract appraisals. The act of voting surely holds more positive emotional meaning when appraised on an abstract level (participating in the democratic process, supporting one's candidate) than a concrete level (waiting in line, checking off names on a ballot), and our account predicts third-person imagery would facilitate this abstract appraisal of voting.

In addition to coherently explaining the range of examples in which third-person imagery has been found to produce greater emotional response, our account also raises a number of novel questions about the role of perspective in emotion. As reviewed earlier, numerous studies document instances in which third-person imagery can dampen emotionality. To the extent that the originally experienced emotion emerged from the particular sensations and associations involved in the concrete experience of the event, our processing style account suggests that third-person imagery should indeed dampen emotion. However, it is notable that the literature contains many more examples of third-person imagery dampening emotion than of third-person imagery increasing emotion. Why is this, if third-person imagery holds the potential to increase or decrease emotion? Exploring this question has the potential to offer insights about the mechanisms contributing to emotion and emotional disorders as well as about the function of perspective.

One factor to consider is that much of the evidence linking third-person imagery to reduced emotional response is from correlational studies in clinical populations. It is possible that these samples bias the picture of imagery perspective's function by focusing on a context in which the recalled events (trauma) may tend to involve emotions based on concrete appraisals (an assumption also worthy of study). In such a context, we would expect third-person imagery to reduce the intensity of emotion, thereby serving avoidant goals. Thus, it seems important to explore imagery perspective's emotional effects in a wide range of contexts, including those that afford other effects of third-person imagery's processing function.

One example that suggests the context and motivations shape the effects of imagery perspective's processing function comes from research in non-clinical samples, manipulating individuals' motivation to understand the broader meaning of events in their lives (Libby & Eibach, 2011a). Instructing participants to think about the broader meaning of events in their lives (vs the concrete details of the event) makes them more likely to picture those events from the third-person perspective, consistent with the idea that third-person imagery facilitates abstract processing. This effect held regardless of whether the pictured events were positive or negative, suggesting that in a context where people's epistemic motivations are heightened, they may employ the processing function of third-person imagery in the service of making meaning rather than in the service of avoiding emotion.

This example highlights the potential for greater insights that could be gained by exploring the role of context and motivation in shaping imagery perspective's emotional effects. Indeed, initial work affirms the value of this approach, orthogonally manipulating imagery perspective and positive reappraisal instructions as participants recalled shameful life events. For high shame-prone individuals, third-person (vs first-person) imagery decreased shame only when combined with positive reappraisal; in the absence of appraisal instructions, third-person (vs first-person) imagery increased shame (Krishnamoorthy et al., 2020).

Another possibility that our analysis raises is that even within a clinical context, people's use of third-person imagery could reflect diverse motives. The worse outcomes that third-person recall of trauma predicts have been interpreted as avoidance interfering with exposure therapy (Williams & Moulds, 2007b). However, the negative prognosis for individuals who use third-person imagery could also or instead reflect heightened anxiety resulting from third-person imagery (analogous to the finding that psychological distance can evoke

anxiety; Doré et al., 2015) or increased sense of the trauma's self-concept centrality (Berntsen et al., 2003; Berntsen & Rubin, 2006; Berntsen & Rubin, 2007). It is possible that all three mechanisms could contribute, and differentially across individuals. Therefore, it may be productive for therapy to identify which mechanism is at play to tailor therapy. For example, if the problematic emotions reflect abstract appraisals, third-person imagery rather than first-person could be more effective in exposure therapy that seeks to integrate emotions into trauma event representations (Foa & Rothbaum, 1998).

New insights into third-person imagery and other's (vs one's own) view of the self

Third-person imagery can also function to provide information about how the self appears to others. That is, when people are concerned with the visual details of what they look like, they may adopt a third-person visual perspective to understand the visual content of others' viewpoint. However, even when the focus is on the literal visual appearance of the self, the mere adoption of a third-person perspective itself serves as a reminder that other viewpoints on the situation exist and that other's thoughts should be taken into consideration (Cohen et al., 2007). That is, consistent with the predictions of our model, the mere prompt to consider other vantage points has the potential to impact a person's cognition (Noah et al., 2018). Indeed, because third-person imagery evokes a processing style based in high-level belief structures, it should be better suited (vs first-person imagery) to process the information that is relevant to considering how the self will be perceived by others (e.g. by enhancing the accessibility of beliefs about cultural norms, how others might perceive an action, etc.). That is, to the extent that third-person imagery evokes a processing style that better allows people to understand an event in relation to these broader belief systems, as our model proposes, it makes sense that people would use third-person imagery in these situations.

It is worth noting, though, that our account posits a broader function for third-person imagery and the information it causes people to rely on. That is, our model proposes that third-person imagery evokes a processing style that functions to help people form an abstract interpretation of one's actions. And, although understanding others' abstract interpretations of those actions is one important type of understanding that people sometimes seek, people might also sometimes want to develop understanding of their actions based on their own abstract interpretations. That is, given the processing function of perspective, an interest in the abstract interpretation of one's actions more generally should promote third-person imagery, and the individual's goal in the moment should then determine which high-level beliefs are utilised: when one's goal is to understand how the self will appear to others, people should rely on their high-level beliefs about cultural norms and appropriate behaviour, but when one's goal is to understand how an event fits in one's broader life narrative, people should rely on their own high-level self-beliefs.

Indeed, in some cases, it appears that it is one's own rather than others' abstract interpretations that shape third-person imagery. For instance, in the research mentioned earlier on self-esteem and failure, third-person vs first-person imagery showed greater activation of self-knowledge (Libby et al., 2011). Additionally, as discussed earlier, in research that manipulated the perspective people used to imagine themselves in an interracial interaction, people's forecasted anxiety in the imagined interracial interaction situation corresponded more closely with their own explicit self-standards to be non-prejudices, controlling for any concerns about appearing prejudiced to others, when they used the third-person vs first-person perspective (Libby et al., 2014). Thus, it appears that although sometimes third-person imagery may involve seeing the self through others' eyes (i.e. using others' standards to make meaning of one's actions), other times third-person imagery involves seeing the self through one's own eyes (i.e. using self-standards to make meaning of one's actions). However, the common theme across all these findings is that third-person imagery supports a focus on the interpretation of the meaning of one's actions or the evaluation of those actions against a standard. This mode of evaluation relies on abstraction, which raises the possibility that people use third-person in order to facilitate a more abstract understanding of their actions, regardless of whether it's one's own or another person's understanding.

Insights into overlooked effects of first-person imagery

Our model seeks to provide a comprehensive account for understanding the function of third-

person imagery by positing a distinct processing style for each imagery perspective. However, in doing so, our model also raises questions about the function of first-person imagery that many approaches do not consider because they treat first-person imagery as the default. That is, in addition to asking why people sometimes adopt a third-person imagery perspective (rather than first-person), we might also ask why people sometimes adopt a first-person imagery perspective (rather than third-person). What functional value does first-person imagery provide, and how does this shape our understanding of the psychological function of mental imagery more broadly?

Our model suggests that first-person imagery evokes a processing style that leads people to rely on their low-level experiential reactions to objects in the pictured scene. This can provide value as people's memories are not always based in their past experiential reactions, but can instead be biased by their pre-existing beliefs (Bartlett, 1932; Robinson & Clore, 2002; Ross, 1989). Similarly, people's beliefs about themselves fail to accurately predict how their experientially-based biases (e.g. implicit racial biases) will impact their behaviour in future situations (e.g. Gawronski & Bodenhausen, 2007; Olson & Fazio, 2008; Rydell & McConnell, 2006). As such, guiding people to use first-person imagery can help them recall their experiences in a way that better matches their actual past reactions and is less biased by their self-beliefs (Niese, Libby, Eibach, & Carlisle, 2019) and help people better recognise how their implicit biases might impact their future behaviour (Libby et al., 2014).

However, this does not mean first-person imagery should always increase the accuracy of people's memories or judgments about a pictured scene. In particular, just as people's memories are sometimes shaped by their self-beliefs, so too can people's experiences in the moment be shaped by their self-beliefs (e.g. Critcher & Dunning, 2009). Indeed, people do not always engage in experiential processes governed by their low-level associative reactions in the moment, as evidenced by various studies that employ experimental manipulations to increase reliance on these processes (e.g. Gawronski & LeBel, 2008; Jordan et al., 2007; Kendrick & Olson, 2012; Koole et al., 2009). That is, the effectiveness of these approaches to enhance experiential processing suggests that a processing style focused on one's experiential reactions might not always be the default state. Thus, the processing style evoked by first-person imagery may sometimes differ from how people actually processed a past event in the moment. And, when recalling situations where such a mismatch exists, third-person imagery should create more accurate memories by leading people to rely on the self-beliefs that shaped their actual experience in the moment, whereas first-person imagery might produce a biasing effect on memory in these situations by enhancing reliance on experiential processes that people were not attuned to in the moment. That is, contrary to the assumption that first-person imagery is a default that necessarily more closely reflects past experience, our model suggests instances in which it could become a source of bias. In this way, our model suggests avenues for future research exploring the function of each type of imagery perspective that provides novel predictions about when each might cause people's mental images to more accurately reflect their actual experiences.

Conclusion: recommendations for systematic research into imagery perspective functions

People's capacity to step outside a recalled or imagined action and watch it unfold from an external vantage point is a fascinating mental trick. Since Nigro and Neisser (1983) originally documented this phenomenon of third-person visual imagery, researchers have learned that such imagery functions to shape social cognition in surprisingly rich and varied ways. In this paper, we sought to highlight the value of taking a more systematic approach that studies how these various effects interrelate due to common underlying social-cognitive function that links them, rather than studying these effects in isolation of each other. When a particular effect of third-person imagery is examined in isolation, this can give a distorted understanding of how third-person imagery shapes social cognition. The integrative, social-cognitive process model that we propose can help to reconcile seemingly discrepant patterns in the literature—e.g. the relation between perspective and emotional response. A process model also can help direct attention to distinctive social-cognitive functions of perspective to ensure that its effects are not neglected.

Another approach that will be essential to gaining a complete understanding of the role that perspective plays in social cognition is to

experimentally test both the determinants and consequences of perspective. The majority of the evidence we reviewed treats imagery perspective as the independent variable, while the research that has measured perspective is primarily correlational, leaving the direction of these effects ambiguous. That is, far fewer studies follow the example of Nigro and Neisser's (1983) approach of also testing whether manipulating people's goal (e.g. as in their work directing people to focus on feelings vs objective details) impacts the perspective they adopt. It is critical for researchers to use this two-pronged research strategy in order to systematically examine the hypothesised functions of imagery perspective. Studies in which first-person vs third-person perspective is the independent variable and the hypothesised functional effect is the dependent variable allow researchers to test whether effects corresponding to the hypothesised function emerge when the perspective that participants use to visualise an event is experimentally controlled. To establish that people capitalise on a potential function, it is essential to conduct a parallel set of studies in which the presence vs absence of the hypothesised functional demand is the independent variable and the visual perspective that the person reports using is the dependent variable (e.g. Cohen et al., 2007; Libby & Eibach, 2011a).

As the field continues to explore the functions of first-person and third-person imagery and integrate them into more comprehensive models, we are learning that this imagery is intimately connected to our sense of self. In particular, the integrative framework that we reviewed suggests that the distinction between first-person and third-person imagery maps onto the distinction between the I-self, corresponding to concrete, momentary sensation of self that is evoked in particular moments, and the me-self, corresponding to the abstract conception of oneself that integrates events into a coherent sense of self-identity (see Libby & Eibach, 2011b). Visual perspective may thus be a useful tool to more directly investigate the distinction between the I-self and me-self, which has been a long-standing theoretical framework for understanding the self that has not been the subject of much direct empirical investigation. Ultimately, a deepened understanding of the functions of mental imagery thus may contribute to the broader project of developing a more comprehensive and nuanced understanding of the self.

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References

Anderson, R. C., & Pichert, J. W. (1978). Recall of previously unrecallable information following a shift in perspective. *Journal of Verbal Learning and Verbal Behavior*, *17*(1), 1–12. https://doi.org/10.1016/S0022-5371(78)90485-1

Bagri, G., & Jones, G. V. (2018). The role of first person perspective and vivid imagery in memory for written narratives. *Educational Psychology in Practice*, *34*(3), 229–244. https://doi.org/10.1080/02667363.2018.1431522

Bar-Anan, Y., Liberman, N., Trope, Y., & Algom, D. (2007). Automatic processing of psychological distance: Evidence from a Stroop task. *Journal of Experimental Psychology: General*, *136*(4), 610–622. https://doi.org/10.1037/0096-3445.136.4.610

Bartlett, F. C. (1932). *Remembering: A study in experimental and social psychology*. Cambridge University Press.

Basso, F., Petit, O., Le Bellu, S., Lahlou, S., Cancel, A., & Anton, J.-L. (2018). Taste at first (person) sight: Visual perspective modulates brain activity implicitly associated with viewing unhealthy but not healthy foods. *Appetite*, *128*, 242–254. https://doi.org/10.1016/j.appet.2018.06.009

Berntsen, D., & Rubin, D. C. (2006). The centrality of event scale: A measure of integrating a trauma into one's identity and its relation to post-traumatic stress disorder symptoms. *Behaviour Research and Therapy*, *44*(2), 219–231. https://doi.org/10.1016/j.brat.2005.01.009

Berntsen, D., & Rubin, D. C. (2007). When a trauma becomes a key to identity: Enhanced integration of trauma memories predicts posttraumatic stress disorder symptoms. *Applied Cognitive Psychology*, *21*(4), 417–431. https://doi.org/10.1002/acp.1290

Berntsen, D., Willert, M., & Rubin, D. C. (2003). Splintered memories or vivid landmarks? Qualities and organization of traumatic memories with and without PTSD. *Applied Cognitive Psychology*, *17*(6), 675–693. https://doi.org/10.1002/acp.894

Bornstein, O., Katzir, M., Simchon, A., & Eyal, T. (2020). Differential effects of abstract and concrete processing on the reactivity of basic and self-conscious emotions. *Cognition and Emotion*, Advance online publication. https://doi.org/10.1080/02699931.2020.1848804

Brown, J. D., & Marshall, M. A. (2001). Self-esteem and emotion: Some thoughts about feelings. *Personality and Social Psychology Bulletin*, *27*(5), 575–584. https://doi.org/10.1177/0146167201275006

Christian, B. M., Miles, L. K., Kenyeri, S. T., Mattschey, J., & Macrae, C. N. (2016). Taming temptation: Visual

perspective impacts consumption and willingness to pay for unhealthy foods. *Journal of Experimental Psychology: Applied*, *22*(1), 85–94. https://doi.org/10.1037/xap0000067

Christian, B. M., Miles, L. K., Parkinson, C., & Macrae, C. N. (2013). Visual perspective and the characteristics of mind-wandering. *Frontiers in Psychology*, *4*, 699. https://doi.org/10.3389/fpsyg.2013.00699

Cili, S., & Stopa, L. (2015). Intrusive mental imagery in psychological disorders: Is the self the key to understanding maintenance? *Frontiers in Psychiatry*, *6*, 103. https://doi.org/10.3389/fpsyt.2015.00103

Clark, D. M., & Wells, A. (1995). A cognitive model of social phobia. In G. Heimberg, M. R. M. R. Liebowitz, D. Hope, & F. Scheier (Eds.), *Social phobia: Diagnosis, assessment, and treatment* (pp. 69–93). The Guilford Press.

Cohen, D., & Gunz, A. (2002). As seen by the other … : Perspectives on the self in the memories and emotional perceptions of Easterners and Westerners. *Psychological Science*, *13*(1), 55–59. https://doi.org/10.1111/1467-9280.00409

Cohen, D., Hoshino-Browne, E., & Leung, A. K. (2007). Culture and the structure of personal experience: Insider and outsider phenomenologies of the self and social world. *Advances in Experimental Social Psychology*, *39*, 1–67. https://doi.org/10.1016/S0065-2601(06)39001-6

Coles, M. E., Turk, C. L., & Heimberg, R. G. (2002). The role of memory perspective in social phobia: Immediate and delayed memories for role-played situations. *Behavioural and Cognitive Psychotherapy*, *30*(4), 415–425. https://doi.org/10.1017/S1352465802004034

Collins, N. L., Ford, M. B., Guichard, A. C., & Allard, L. M. (2006). Working models of attachment and attribution processes in intimate relationships. *Personality and Social Psychology Bulletin*, *32*(2), 201–219. https://doi.org/10.1177/0146167205280907

Conway, M. A. (2001). Sensory-perceptual episodic memory and its context: Autobiographical memory. *Philosophical Transactions of the Royal Society Biological Sciences*, *356*(1413), 1375–1384. https://doi.org/10.1098/rstb.2001.0940

Conway, M. A. (2005). Memory and the self. *Journal of Memory and Language*, *53*(4), 594–628. https://doi.org/10.1016/j.jml.2005.08.005

Conway, M. A., & Pleydell-Pearce, C. W. (2000). The construction of autobiographical memories in the self-memory system. *Psychological Review*, *107*(2), 261–288. https://doi.org/10.1037/0033-295X.107.2.261

Conway, M. A., Singer, J. A., & Tagini, A. (2004). The self and autobiographical memory: Correspondence and coherence. *Social Cognition*, *22*(5), 491–529. https://doi.org/10.1521/soco.22.5.491.50768

Critcher, C. R., & Dunning, D. (2009). How chronic self-views influence (and mislead) self-assessments of task performance: Self-views shape bottom-up experiences with the task. *Journal of Personality and Social Psychology*, *97*(6), 931–945. https://doi.org/10.1037/a0017452

Damasio, A. R. (1994). *Descartes' error: Emotion, reason and the human brain*. Grosset/Putnam.

D'Argembeau, A., & Van der Linden, M. (2004). Phenomenal characteristics associated with projecting oneself back into the past and forward into the future: Influence of valence and temporal distance. *Consciousness and Cognition*, *13*(4), 844–858. https://doi.org/10.1016/j.concog.2004.07.007

D'Argembeau, A., Van der Linden, M., d'Acremont,, M., & Mayers, I. (2006). Phenomenal characteristics of autobiographical memories for social and non-social events in social phobia. *Memory*, *14*(5), 637–647. https://doi.org/10.1080/09658210600747183

Doré, B., Ort, L., Braverman, O., & Ochsner, K. N. (2015). Sadness shifts to anxiety over time and distance from the national tragedy in Newtown, Connecticut. *Psychological Science*, *26*(4), 363–373. https://doi.org/10.1177/0956797614562218

Eich, E., Nelson, A. L., Leghari, M. A., & Handy, T. C. (2009). Neural systems mediating field and observer memories. *Neuropsychologia*, *47*(11), 2239–2251. https://doi.org/10.1016/j.neuropsychologia.2009.02.019

El Haj, M., Moustafa, A., Gallouj, K., & Robin, F. (2019). Visual imagery: The past and future as seen by patients with Alzheimer's disease. *Consciousness and Cognition*, *68*, 12–22. https://doi.org/10.1016/j.concog.2018.12.003

Epstein, S. (2003). Cognitive-experiential self-theory of personality. In T. Millon, & M. J. Lerner (Eds.), *Comprehensive handbook of psychology: Vol. 5: Personality and social psychology* (pp. 159–184). Wiley & Sons.

Feeney, J. A. (2004). Hurt feelings in couple relationships: Towards integrative models of the negative effects of hurtful events. *Journal of Social and Personal Relationships*, *21*(4), 487–508. https://doi.org/10.1177/0265407504044844

Foa, E. B., & Rothbaum, B. O. (1998). *Treating the trauma of rape: Cognitive behavioral therapy for PTSD*. Guilford Press.

Frank, M. G., & Gilovich, T. (1989). Effect of memory perspective on retrospective causal attribution. *Journal of Personality and Social Psychology*, *57*(3), 399–403. https://doi.org/10.1037/0022-3514.57.3.399

Fujita, K., Trope, Y., Liberman, N., & Levin-Sagi, M. (2006). Construal levels and self-control. *Journal of Personality and Social Psychology*, *90*(3), 351–367. https://doi.org/10.1037/0022-3514.90.3.351

Gallagher, S. (2000). Philosophical conceptions of the self: Implications for cognitive science. *Trends in Cognitive Sciences*, *4*(1), 14–21. https://doi.org/10.1016/S1364-6613(99)01417-5

Gawronski, B., & Bodenhausen, G. V. (2007). Unraveling the processes underlying evaluation: Attitudes from the perspective of the APE model. *Social Cognition*, *25*(5), 687–717. https://doi.org/10.1521/soco.2007.25.5.687

Gawronski, B., & LeBel, E. P. (2008). Understanding patterns of attitude change: When implicit measures show change, but explicit measures do not. *Journal of Experimental Social Psychology*, *44*(5), 1355–1361. https://doi.org/10.1016/j.jesp.2008.04.005

Geiselman, R. E., Fisher, R. P., MacKinnon, D. P., & Holland, H. L. (1986). Enhancement of eyewitness memory with the cognitive interview. *The American Journal of Psychology*, *99*(3), 385–401. https://doi.org/10.2307/1422492

Gilead, M., Trope, Y., & Liberman, N. (2020). Above and beyond the concrete: The diverse representational substrates of the predictive brain. *Behavioral and Brain Sciences*, *43*(e121), 1–74. https://doi.org/10.1017/S0140525X19002000

Gilovich, T., & Medvec, V. H. (1995). The experience of regret: What, when, and why. *Psychological Review*, *102*(2), 379–395. https://doi.org/10.1037/0033-295X.102.2.379

Gilovich, T., Medvec, V. H., & Kahneman, D. (1998). Varieties of regret: A debate and partial resolution. *Psychological Review*, *105*(3), 602–605. https://doi.org/10.1037/0033-295X.105.3.602

Hart-Smith, L., & Moulds, M. L. (2019). Abstract processing and observer vantage perspective in dysphoria. *Journal of Experimental Psychology: Applied*, *25*(2), 177–191. https://doi.org/10.1037/xap0000172

Holmes, E. A., Coughtrey, A. E., & Connor, A. (2008). Looking at or through rose-tinted glasses? Imagery perspective and positive mood. *Emotion*, *8*(6), 875–879. https://doi.org/10.1037/a0013617

Huebner, D. M., & Fredrickson, B. L. (1999). Gender differences in memory perspectives: Evidence for self-objectification in women. *Sex Roles*, *41*(5/6), 459–467. https://doi.org/10.1023/A:1018831001880

Hung, I. W., & Mukhopadhyay, A. (2012). Lenses of the heart: How actors' and observers' perspectives influence emotional experiences. *Journal of Consumer Research*, *38*(6), 1103–1115. https://doi.org/10.1086/661529

James, W. (1890/1950). *The principles of psychology, Vol. 1*. Dover Publications.

Jordan, C. H., Whitfield, M., & Zeigler-Hill, V. (2007). Intuition and the correspondence between implicit and explicit self-esteem. *Journal of Personality and Social Psychology*, *93*(6), 1067–1079. https://doi.org/10.1037/0022-3514.93.6.1067

Katzir, M., & Eyal, T. (2013). When stepping outside the self is not enough: A self-distanced perspective reduces the experience of basic but not of self-conscious emotions. *Journal of Experimental Social Psychology*, *49*(6), 1089–1092. https://doi.org/10.1016/j.jesp.2013.07.006

Kedia, G, & Hilton, D. J. (2011). Hot as hell! The self-conscious nature of action regrets. *Journal of Experimental Social Psychology*, *47*(2), 490–493. https://doi.org/10.1016/j.jesp.2010.10.017

Kendrick, R. V., & Olson, M. A. (2012). When feeling right leads to being right in the reporting of implicitly-formed attitudes, or how I learned to stop worrying and trust my gut. *Journal of Experimental Social Psychology*, *48*(6), 1316–1321. https://doi.org/10.1016/j.jesp.2012.05.008

Kenny, L. M., & Bryant, R. A. (2007). Keeping memories at an arm's length: Vantage point of trauma memories. *Behaviour Research and Therapy*, *45*(8), 1915–1920. https://doi.org/10.1016/j.brat.2006.09.004

Kenny, L. M., Bryant, R. A., Silove, D., Creamer, M., O'Donnell, M., & McFarlane, A. C. (2009). Distant memories: A prospective study of vantage point of trauma memories. *Psychological Science*, *20*(9), 1049–1052. https://doi.org/10.1111/j.1467-9280.2009.02393.x

Kernis, M. H., Brockner, J., & Frankel, B. S. (1989). Self-esteem and reactions to failure: The mediating role of overgeneralization. *Journal of Personality and Social Psychology*, *57*(4), 707–714. https://doi.org/10.1037/0022-3514.57.4.707

Kille, D. R., Eibach, R. P., Wood, J. V., & Holmes, J. G. (2017). Who can't take a compliment? The role of construal level and self-esteem in accepting positive feedback from close others. *Journal of Experimental Social Psychology*, *68*, 40–49. https://doi.org/10.1016/j.jesp.2016.05.003

Koole, S. L., Govorun, O., Cheng, C. M., & Gallucci, M. (2009). Pulling yourself together: Meditation promotes congruence between implicit and explicit self-esteem. *Journal of Experimental Social Psychology*, *45*(6), 1220–1226. https://doi.org/10.1016/j.jesp.2009.05.018

Koriat, A., & Goldsmith, M. (1996). Memory metaphors and the real-life/laboratory controversy: Correspondence versus storehouse conceptions of memory. *Behavioral and Brain Sciences*, *19*(2), 167–188. https://doi.org/10.1017/S0140525X00042114

Krishnamoorthy, G., Davis, P., O'Donovan, A., McDermott, B., & Mullens, A. (2020). Through benevolent eyes: The differential efficacy of perspective taking and cognitive reappraisal on the regulation of shame. *International Journal of Cognitive Therapy*. Advanced online publication. https://doi.org/10.1007/s41811-020-00085-4

Lazarus, R. S. (1991). Cognition and motivation in emotion. *American Psychologist*, *46*(4), 352–367. https://doi.org/10.1037/0003-066X.46.4.352

Ledgerwood, A., Trope, Y., & Liberman, N. (2010). Flexibility and consistency in evaluative responding: The function of construal level. In M. P. Zanna & J. M. Olson (Eds.), *Advances in experimental social psychology* (Vol. 43, pp. 257–295). Academic Press.

LeDoux, J. (2003). *Synaptic self: How our brains become who we are*. Viking.

Libby, L. K., & Eibach, R. P. (2002). Looking back in time: Self-concept change affects visual perspective in autobiographical memory. *Journal of Personality and Social Psychology*, *82*(2), 167–179. https://doi.org/10.1037/0022-3514.82.2.167

Libby, L. K., & Eibach, R. P. (2011a). Self-enhancement or self-coherence? Why people shift visual perspective in mental images of the personal past and future. *Personality and Social Psychology Bulletin*, *37*(5), 714–726. https://doi.org/10.1177/0146167211400207

Libby, L. K., & Eibach, R. P. (2011b). Visual perspective in mental imagery: A representational tool that functions in judgment, emotion, and self-insight. In M. P. Zanna & J. M. Olson (Eds.), *Advances in Experimental Social psychology* (Vol. 44, p. 185-245). Academic Press.

Libby, L. K., Eibach, R. P., & Gilovich, T. (2005). Here's looking at me: The effect of memory perspective on assessments of personal change. *Journal of Personality and Social Psychology*, *88*(1), 50–62. https://doi.org/10.1037/0022-3514.88.1.50

Libby, L. K., Shaeffer, E. M., & Eibach, R. P. (2009). Seeing meaning in action: A bidirectional link between visual perspective and action identification level. *Journal of*

Experimental Psychology: General, *138*(4), 503–516. https://doi.org/10.1037/a0016795

Libby, L. K., Shaeffer, E. M., Eibach, R. P., & Slemmer, J. A. (2007). Picture yourself at the polls – Visual perspective in mental imagery affects self-perception and behavior. *Psychological Science*, *18*(3), 199–203. https://doi.org/10.1111/j.1467-9280.2007.01872.x

Libby, L. K., Valenti, G., Hines, K. A., & Eibach, R. P. (2014). Using imagery perspective to access two distinct forms of self-knowledge: Associative evaluations versus propositional self-beliefs. *Journal of Experimental Psychology: General*, *143*(2), 492–497. https://doi.org/10.1037/a0033705

Libby, L. K., Valenti, G., Pfent, A., & Eibach, R. P. (2011). Seeing failure in your life: Imagery perspective determines whether self-esteem shapes reactions to recalled and imagined failure. *Journal of Personality and Social Psychology*, *101*(6), 1157–1173. https://doi.org/10.1037/a0026105

Lind, S. E., & Bowler, D. M. (2010). Episodic memory and episodic future thinking in adults with autism. *Journal of Abnormal Psychology*, *119*(4), 896–905. https://doi.org/10.1037/a0020631

Macrae, C. N., Mitchell, J. P., McNamara, D. L., Golubickis, M., Andreou, K., Møller, S., Peytcheva, K., Falben, J. K., & Christian, B. M. (2016). Noticing future me: Reducing egocentrism through mental imagery. *Personality and Social Psychology Bulletin*, *42*(7), 855–863. https://doi.org/10.1177/0146167216644961

Macrae, C. N., Raj, R. S., Best, S. B., Christian, B. M., & Miles, L. K. (2013). Imagined sensory experiences can shape person perception: It's a matter of visual perspective. *Journal of Experimental Social Psychology*, *49*(3), 595–598. https://doi.org/10.1016/j.jesp.2012.10.002

Marcotti, P., & St. Jacques, P. L. (2018). Shifting visual perspective during memory retrieval reduces the accuracy of subsequent memories. *Memory*, *26*(3), 330–341. https://doi.org/10.1080/09658211.2017.1329441

Marigold, D. C., Eibach, R. P., Libby, L. K., Ross, M., & Holmes, J. G. (2015). Framing memories of relationship transgressions: How visual imagery perspective activates relational knowledge. *Journal of Social and Personal Relationships*, *32*(4), 491–508. https://doi.org/10.1177/0265407514536304

Martin, M., & Jones, G. V. (2012). Individualism and the field viewpoint: Cultural influences on memory perspective. *Consciousness and Cognition*, *21*(3), 1498–1503. https://doi.org/10.1016/j.concog.2012.04.009

McIsaac, H. K., & Eich, E. (2002). Vantage point in episodic memory. *Psychonomic Bulletin & Review*, *9*(1), 146–150. https://doi.org/10.3758/BF03196271

McIsaac, H. K., & Eich, E. (2004). Vantage point in traumatic memory. *Psychological Science*, *15*(4), 248–253. https://doi.org/10.1111/j.0956-7976.2004.00660.x

McLean, K. C. (2005). Late adolescent identity development: Narrative meaning making and memory telling. *Developmental Psychology*, *41*(4), 683–691. https://doi.org/10.1037/0012-1649.41.4.683

Moran, T., Bornstein, O., & Eyal, T. (2021). The level of construal involved in the elicitation of core versus moral disgust. *Emotion*, *21*(2), 391–404. https://doi.org/10.1037/emo0000709

Neisser, U. (1981). John Dean's memory: A case study. *Cognition*, *9*(1), 1–22. https://doi.org/10.1016/0010-0277(81)90011-1

Neisser, U. (1994). Self-narratives: True and false. In U. Neisser, & R. Fivus (Eds.), *The remembering self: Construction and accuracy in the self-narrative* (pp. 1–18). Cambridge University Press.

Niese, Z. A., Libby, L. K., Eibach, R. P., & Carlisle, C. (2019). I can see myself enjoying that: Using imagery perspective to circumvent bias in self-perceptions of interest. *Journal of Experimental Psychology: General*, *148*(12), 2258–2276. https://doi.org/10.1037/xge0000612

Niese, Z. A., Libby, L. K., Fazio, R. H., Eibach, R. P., & Pietri, E. S. (2019). Does the future look bright? Processing style determines the impact of valence weighting biases and self-beliefs on expectations. *Journal of Personality and Social Psychology*, *116*(2), 193–214. https://doi.org/10.1037/pspa0000136

Nigro, G., & Neisser, U. (1983). Point of view in personal memories. *Cognitive Psychology*, *15*(4), 467–482. https://doi.org/10.1016/0010-0285(83)90016-6

Noah, T., Schul, Y., & Mayo, R. (2018). Thinking of oneself as an object of observation reduces reliance on metacognitive information. *Journal of Experimental Psychology: General*, *147*(7), 1023–1042. https://doi.org/10.1037/xge0000440

Olson, M. A., & Fazio, R. H. (2008). Implicit and explicit measures of attitudes: The perspective of the MODE model. In R. E. Petty, R. H. Fazio, & P. Briñol (Eds.), *Attitudes: Insights from the new implicit measures* (pp. 19–63). Psychology Press.

Osman, S., Cooper, M., Hackmann, A., & Veale, D. (2004). Spontaneously occurring images and early memories in people with body dysmorphic disorder. *Memory*, *12*(4), 428–436. https://doi.org/10.1080/09658210444000043

Piolino, P., Coste, C., Martinelli, P., Macé, A., Quinette, P., Guillery-Girard, B., & Belleville, S. (2010). Reduced specificity of autobiographical memory and aging: Do the executive and feature binding functions of working memory have a role? *Neuropsychologia*, *48*(2), 429–440. https://doi.org/10.1016/j.neuropsychologia.2009.09.035

Piolino, P., Desgranges, B., Clarys, D., Guillery-Girard, B., Taconnat, L., Isingrini, M., & Eustache, F. (2006). Autobiographical memory, autonoetic consciousness, and self-perspective in aging. *Psychology and Aging*, *21*(3), 510–525. https://doi.org/10.1037/0882-7974.21.3.510

Potheegadoo, J., Berna, F., Cuervo-Lombard, C., & Danion, J. (2013). Field visual perspective during autobiographical memory recall is less frequent among patients with schizophrenia. *Schizophrenia Research*, *150*(1), 88–92. https://doi.org/10.1016/j.schres.2013.07.035

Pronin, E., & Ross, L. (2006). Temporal differences in trait self-ascription: When the self is seen as an other.

Journal of Personality and Social Psychology, *90*(2), 197–209. https://doi.org/10.1037/0022-3514.90.2.197

Rapee, R. M., & Heimberg, R. G. (1997). A cognitive-behavioral model of anxiety in social phobia. *Behaviour Research and Therapy*, *35*(8), 741–756. https://doi.org/10.1016/S0005-7967(97)00022-3

Reyna, V. F. (2012). A new intuitionism: Meaning, memory, and development in fuzzy-trace theory. *Judgment and Decision Making*, *7*(3), 332–359.

Rice, H. J., & Rubin, D. C. (2009). I can see it both ways: First- and third-person visual perspectives at retrieval. *Consciousness and Cognition*, *18*(4), 887–890. https://doi.org/10.1016/j.concog.2009.07.004

Rice, H. J., & Rubin, D. C. (2011). Remembering from any angle: The flexibility of visual perspective during retrieval. *Consciousness and Cognition*, *20*(3), 568–577. https://doi.org/10.1016/j.concog.2010.10.013

Robins, R. W., & John, O. P. (1997). Effects of visual perspective and narcissism on self-perception: Is seeing believing? *Psychological Science*, *8*(1), 37–42. https://doi.org/10.1111/j.1467-9280.1997.tb00541.x

Robinson, M. D., & Clore, G. L. (2002). Episodic and semantic knowledge in emotional self-report: Evidence for two judgment processes. *Journal of Personality and Social Psychology*, *83*(1), 198–215. https://doi.org/10.1037/0022-3514.83.1.198

Robinson, J. A., & Swanson, K. L. (1993). Field and observer modes of remembering. *Memory*, *1*(3), 169–184. https://doi.org/10.1080/09658219308258230

Roediger, H. L., & Marsh, E. J. (2003). Episodic and autobiographical memory. In A. F. Healy, & R. W. Proctor (Eds.), *The handbook of psychology* (pp. 475–497). Wiley.

Ross, M. (1989). Relation of implicit theories to the construction of personal histories. *Psychological Review*, *96*(2), 341–357. https://doi.org/10.1037/0033-295X.96.2.341

Rydell, R. J., & McConnell, A. R. (2006). Understanding implicit and explicit attitude change: A systems of reasoning analysis. *Journal of Personality and Social Psychology*, *91*(6), 995–1008. https://doi.org/10.1037/0022-3514.91.6.995

Sekiguchi, T., & Nonaka, S. (2014). The long-term effect of perspective change on the emotional intensity of autobiographical memories. *Cognition and Emotion*, *28*(2), 375–383. https://doi.org/10.1080/02699931.2013.825233

Shaeffer, E. M., Libby, L. K., & Eibach, R. P. (2015). Changing visual perspective changes processing style: A distinct pathway by which imagery guides cognition. *Journal of Experimental Psychology: General*, *144*(3), 534–538. https://doi.org/10.1037/xge0000073

Skowronski, J. J., Sedikides, C., Xie, W., & Zhou, X. (2015). Changing the working self alters the emotions prompted by recall. *Memory*, *23*(2), 254–267. https://doi.org/10.1080/09658211.2014.882956

Smith, C. A., & Ellsworth, P. C. (1985). Patterns of cognitive appraisal in emotion. *Journal of Personality and Social Psychology*, *48*(4), 813–838. https://doi.org/10.1037/0022-3514.48.4.813

Spurr, J. M., & Stopa, L. (2003). The observer perspective: Effects on social anxiety and performance. *Behaviour Research and Therapy*, *41*(9), 1009–1028. https://doi.org/10.1016/S0005-7967(02)00177-8

St. Jacques, P. L., Szpunar, K. K., & Schacter, D. L. (2017). Shifting visual perspective during retrieval shapes autobiographical memories. *NeuroImage*, *148*(1), 103–114. https://doi.org/10.1016/j.neuroimage.2016.12.028

Strout, E. (2013). *The Burgess boys*. Random House.

Talarico, J. M., & Rubin, D. C. (2003). Confidence, not consistency, characterizes flashbulb memories. *Psychological Science*, *14*(5), 455–461. https://doi.org/10.1111/1467-9280.02453

Trope, Y., & Liberman, N. (2010). Construal-level theory of psychological distance. *Psychological Review*, *117*(2), 440–463. https://doi.org/10.1037/a0018963

Tulving, E. (2002). Episodic memory: From mind to brain. *Annual Review of Psychology*, *53*(1), 1–25. https://doi.org/10.1146/annurev.psych.53.100901.135114

Valenti, G., Libby, L. K., & Eibach, R. P. (2011). Looking back with regret: Visual perspective in memory images differentially affects regret for actions and inactions. *Journal of Experimental Social Psychology*, *47*(4), 730–737. https://doi.org/10.1016/j.jesp.2011.02.008

Vasquez, N. A., & Buehler, R. (2007). Seeing future success: Does imagery perspective influence achievement motivation? *Personality and Social Psychology Bulletin*, *33*(10), 1392–1405. https://doi.org/10.1177/0146167207304541

Vella, N. C., & Moulds, M. L. (2014). The impact of shifting vantage perspective when recalling and imagining positive events. *Memory*, *22*(3), 256–264. https://doi.org/10.1080/09658211.2013.778292

Wakslak, C. J., Nussbaum, S., Liberman, N., & Trope, Y. (2008). Representations of the self in the near and distant future. *Journal of Personality and Social Psychology*, *95*(4), 757–773. https://doi.org/10.1037/a0012939

Wells, A., Clark, D. M., & Ahmad, S. (1998). How do I look with my mind's eye: Perspective taking in social phobic imagery. *Behaviour Research and Therapy*, *36*(6), 631–634. https://doi.org/10.1016/S0005-7967(98)00037-0

Williams, A. D., & Moulds, M. L. (2007a). An investigation of the cognitive and experiential features of intrusive memories in depression. *Memory*, *15*(8), 912–920. https://doi.org/10.1080/09658210701508369

Williams, A. D., & Moulds, M. L. (2007b). Cognitive avoidance of intrusive memories: Recall vantage perspective and associations with depression. *Behaviour Research and Therapy*, *45*(6), 1141–1153. https://doi.org/10.1016/j.brat.2006.09.005

Williams, A. D., & Moulds, M. L. (2008). Negative appraisals and cognitive avoidance of intrusive memories in depression: A replication and extension. *Depression and Anxiety*, *25*(7), e26–e33. https://doi.org/10.1002/da.20409

Wilson, T. D. (2002). *Strangers to ourselves: Discovering the adaptive unconscious*. Harvard University Press.

Zunick, P. V., Fazio, R. H., & Vasey, M. W. (2015). Directed abstraction: Encouraging broad, personal generalizations following a success experience. *Journal of Personality and Social Psychology*, *109*(1), 1–19. https://doi.org/10.1037/pspa0000027