1. Supplemental Material

1.2. Experimental Materials

1.2.1. Experiment 1

The following instructions were used in Experiment 1.

"Impact of Media Study - Instructions

This study looks at peoples' reactions to different stories from the media. You will read stories taken from media (e.g. twitter, blogs, or newspapers) of situations where someone is in need of help. All names from the stories have been removed to maintain the anonymity of those involved. After reading each story, you will either imagine yourself helping the person at a particular location (e.g. at Fenway Park, the Eiffel tower, or the White House), or identify the news media source the story comes from.

Identify Media [No Helping condition]: For the Identify Media task, think about the type of media it likely comes from (e.g. nytimes, local newspaper, twitter) and what journalistic techniques make the story more or less professional. These may be formal journalistic or writing techniques if you are familiar with them, but can also be general features of the writing that you believe impact its level of professionalism. For example, you may point out how the use of a particular term (e.g. mommy instead of mother) or the structure of the piece (e.g. incorrect grammar) make it less professional and thus the story is likely to have come from a blog.

Imagine Helping (Familiar Location) [Strong Context Helping condition]: For the Imagine task, imagine a positive interaction of you helping out the person in need. Please try to imagine a specific event that will occur approximately 1 year from now. Imagine a plausible way that **you** could actually help the person in the story **at the specified location that is familiar to you**. For example, if the story involves someone losing their class notes and the specified location was a lecture hall, you should imagine helping the person at a lecture hall that **you have been to before**. You could imagine helping the person find their notes after class. Imagining the location is a big lecture hall you have been in before with high ceilings and white walls. After systematically searching row by row, you find their notes tucked under a seat. The person is glad to have their notes returned.

Imagine Helping (Unfamiliar Location) [Weak Context Helping condition]: For the Imagine task, imagine a positive interaction of you helping out the person in need. Please try to imagine a specific event that will occur approximately 1 year from now. Imagine a plausible way that **you** could actually help the person in the story **at the specified location that is unfamiliar to you**. For example, if the story involves someone losing their class notes and the specified location was the White house, you should imagine helping the person in a part of the White House that **you have not been to before**. You could imagine helping the person find their notes after a tour of the White House.

Imagining the location is an office with expensive furniture and pictures of old presidents on the walls. After systematically searching the office, you find their notes in a drawer. The person is glad to have their notes returned.

For both **Imagine Helping** tasks, be sure to picture the helping event taking place in the specified location. Picture **where you are** and **what you are doing**.

After reading each story and completing one of the three tasks above, you will be asked to rate either how confident you are that you identified the correct media source (for the **Identify Media** task), or how clear the location was represented in your mind (for the **Imagine Helping** task). You will have up to 5 seconds to make each rating. You will have approximately 10 seconds to read each story and 60 seconds to imagine helping at a particular location or identify media. The experimental trials will take about 30 mins. to complete.

It is important that you closely follow task instructions, as, afterwards you will be asked to answer a series of questions regarding what you were thinking for each task. You will also be asked to provide descriptions of the helping events you imagined in the **Imagine Helping** tasks and descriptions of the media sources and journalistic techniques you identified in the **Identify Media** task. We will use these descriptions in part to ensure that you were paying attention and complying with task instructions.

Do you have any questions?"

Location cues for imagined events were based on Arnold et al., (2011) and related to previous work that has manipulated the familiarity of locations of imagined episodes (de Vito, Gamboz, & Brandimonte, 2012; Robin & Moscovitch; 2014)

Familiar Locations:
Museum
Downtown Boston
Grocery Store
Library
Dining Hall
Park

Unfamiliar Locations:
Pyramids of Egypt
Downtown Singapore
Dorchester
Great Wall of China
Roman Colosseum
The Alps
Grand Canyon

1.2.2. Experiment 2

The following instructions were used in Experiment 2.

"General Instructions

Impact of Media Study - Instructions

This study looks at peoples' reactions to different stories from the media. You will read short stories from media (e.g. twitter, blogs, or newspapers) of situations where someone is in need of help. All from the stories have been removed to maintain the anonymity of those involved.

After reading each story, you will either:

Imagine yourself helping the person at a familiar location (e.g. a Restaurant)

OR

Imagine yourself helping the person at an unfamiliar location (e.g. Grand Canyon)

OR

Identify the news media source the story comes from and discuss the writing style and content of the story.

We will now go on to discuss the tasks in more detail.

Click the arrow button to proceed.

[page 1]"

"Identify Media

For the Identify Media task, we want you to think about **the type of media the story likely comes** (e.g. nytimes, local newspaper, twitter) **and discuss the writing styles or content** that make the more or less professional. These may be formal or general features of the writing that you believe i its level of professionalism.

An example of a story would be:

"This person is locked out of their house."

For example, you may point out how the use of a particular term (e.g. locked out instead of unable enter) or the content of the piece (e.g. small everyday situation) make it less professional and thus story is likely to have come from a blog.

Click the arrow button to proceed.

[page 2]"

"Imagine Helping (Familiar Location)

For the Imagine Helping Familiar Location task, we want you to imagine a positive interaction of you helping out the person in need. Please try to imagine a specific event that will occur approximately 1 year from now. Imagine a plausible way that you could actually help the person in the story **at the specific location that is familiar to you**.

An example of a story would be:

"The red cross is having a blood drive, and this person is working hard to get people t participate, but everyone is passing them by."

You will see the following instructions on your screen along with the specified location you should imagine helping the person:

Imagine yourself helping the person in the story at a location you have been to before: A Park

For this example, you could then imagine helping the person at a park that you have been to before. You could imagine seeing the person trying to recruit people to participate in the blood drive. You could imagine helping the person hand out flyers to people passing by in the park. Imagining the location large park that you have been in before with many

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benches and paths. After helping the person recruit several people, you are able to get them to sign up for the blood drive. The person is to have participants.

Click the arrow button to proceed.

[page 3]"

"Imagine Helping (Unfamiliar Location)

For the Imagine Helping Unfamiliar Location task, imagine a positive interaction of you helping out person in need. Please try to imagine a specific event that will occur approximately 1 year from now. Imagine a plausible way that you could actually help the person in the story **at the specified location that is unfamiliar to you**.

An example of a story would be:

"This person is suffering from dementia and is lost."

You will see the following instructions on your screen along with the specified location you should imagine helping the person:

Imagine yourself helping the person in the story at a location you have NOT been to before: White House

For example, you could then imagine helping the person by approaching them and asking them if they need assistance. Imagining the location is an office with expensive furniture and pictures of old pre on the walls. You imagine guiding them through the office to the security desk and inform the security officer that the person is lost and ask him for directions. You then help the person find the room the looking for. The person is glad to have your guidance.

Click the arrow button to proceed.

[page 4]"

Final Instructions

"Following the Practice Trials, you will read a total of **6 stories** before performing each task. For each story, you will perform the "**Imagine Helping (Familiar Location) task",** "**Imagine Helping (Unfamiliar Location) task,**"" or the "**Identify Media task**". You will write about the event you imagined or the media source you identified in a text box and then answer a short series of questions.

IMPORTANT!!

Please do one task at a time.

For instance, when you engage in the "**Imagine Helping (Unfamiliar Location) task**", youshould **not** *identify the media source or imagine helping in a familiar location.* When you engage in "**Identify Media** task", you should **not** *imagine helping the person in a particular location.*

Also, please note that experimenters will be monitoring your performance at the conclusion of the study ensure you complied with task instructions.

Click the arrow button to proceed.

[page 5]"

The location cues were a random subset of Experiment 1.

Familiar Locations:
Grocery Store
Library

Unfamiliar Locations:
The Alps
Downtown Singapore

1.2.3. Experiment 3

The instructions in Experiment 3 were the same as Experiment 2 but with the following addition describing economic task and donation procedures.

"**During the course of this study, you can earn up to an extra $3 with the option to transfer up to $1.5 to a person in the story.**

On each trial, you will be asked if you want to make an offer to the person in the story. Each trial will involve different people. The offer will be given in points, every point will be worth 1.5 cent at the end of the study - so an offer for 100 points has $1.50 at stake. **We don't want what happens in one trial to affect your decisions in another. So at the end of the study we will randomly choose one trial and use its outcomes to determine your bonus payment.**

Thus, because only one trial will count, but you don't know which one it will be, it is in your best interest to treat each decision as if it is the only one that matters for your final payoffs. We will now go on to discuss the tasks in more detail.

Click the arrow button to proceed."

The location cues were the same as Experiment 2.

1.3. Spatial Context Manipulation: Scene Imagery

Across Experiments 1-3, location familiarity ratings confirmed that participants had previously been to and were more familiar with locations in the Strong Context Helping condition than those in the Weak Context Helping condition (Expt. 1: $M = 6.01$ $SE = .11$, $M = 1.87$ $SE = .82$, $t(29) = 22.46$, $p < .001$; Expt. 2: $M = 6.37$ $SE = .08$, $M = 1.68$ $SE = .09$, $t(102) = 37.76$, $p < .001$; Expt. 3: $M = 89.50$ $SE = 1.62$, $M = 9.99$ $SE = .1.60$, $t(99) = 33.24$, $p < .001$) consistent with previous studies using similar spatial manipulations (e.g., Arnold et al., 2011).

Reliability analysis in Experiment 1 showed that measures of scene imagery (i.e., scene coherence, scene detail, and location clarity) were all highly related to one another (Cronbach's Alpha, Strong Context Helping = .84; Weak Context Helping = .82) and similarly impacted by our spatial manipulation. Thus, these measures were averaged to form a scene imagery index consistent with previous work (Gaesser et al., 2016). Manipulating the strength of the spatial context for imagined helping episodes increased all measures of scene imagery (scene coherence: Strong Context Helping (M = 5.32 SE = .15) vs. Weak Context Helping (M = 3.64, SE = .18), t (29) = 9.93, p < .001; scene detail: Strong Context Helping (M = 5.24 SE = .17) vs. Weak Context Helping (M = 3.60 SE = .17), t (29) = 8.06, p < .001); clarity of location: (Strong Context Helping (M = 6.08 SE = .13) vs. Weak Context Helping (M = 2.89 SE = .17), t (29) = 16.31, p < .001.

Similarly, reliability analysis in Experiment 2 showed that measures of scene imagery (i.e., scene coherence, scene detail, location clarity, and scene image) were all highly related to one another (Cronbach's Alpha, Strong Context Helping = .82; Weak Context Helping = .85). Manipulating the strength of the spatial context for imagined helping episodes increased all measures of scene imagery (scene coherence, Strong Context Helping (M = 6.05 SE = .10) vs. Weak Context Helping (M = 5.39 SE = .11), t (102) = 6.81, p < .001; scene detail: Strong Context Helping (M = 5.53 SE = .11) vs. Weak Context Helping (M = 4.62 SE = .13), t (102) = 8.29, p < .001); clarity of location: Strong Context Helping (M = 5.50 SE = .13) vs. Weak Context Helping (M = 3.77 SE = .16), t (102) = 10.89, p < .001; scene image: Strong Context Helping (M = 5.52 SE = .11) vs. Weak Context Helping (M = 4.61 SE = .14), t (102) = 7.98, p < .001).

In line with Experiments 1 and 2, reliability analysis in Experiment 3 showed that measures of scene imagery (i.e., scene coherence, scene detail, and location clarity) were all highly related to one another (Cronbach's Alpha, Strong Context Helping = .83; Weak Context Helping = .68). Manipulating the strength of the spatial context for imagined helping episodes increased all measures of scene imagery (scene coherence, Strong Context Helping (M = 87.31 SE = 1.49) vs. Weak Context Helping (M = 76.33 SE = 2.21), t (99) = 6.01, p < .001; scene detail: Strong Context Helping (M = 79.89 SE = 2.13) vs. Weak Context Helping (M = 59.16 SE = 2.58), t (99) = 7.49, p < .001; clarity of location: Strong Context Helping (M = 86.71 SE = 1.67) vs. Weak Context Helping (M = 56.00 SE = 2.67), t (99) = 10.57, p < .001. Thus, we feel confident that the data suggest that we effectively manipulated scene imagery overall, while recognizing that a fruitful direction for future work is to hone in on which precise sensory aspects of the imagined scene impact prosocial decision-making.

1.4. Spatial Context Manipulation: Preferential Impact on Scene Imagery Compared to Theory of Mind

While the focus of the present studies is on manipulating scene imagery through the strength of the spatial context the helping episode is located in and observing subsequent effects on willingness to help, we were also interested in observing the role of theory of mind to gain greater insight into the underlying cognitive mechanisms supporting the relationship between episodic simulation and prosocial decision-making. Along these lines, we examined the impact of the spatial context manipulation on theory of mind and contrasted it with the impact on scene imagery.

In Experiment 1, a repeated-measures ANOVA (Strong Context Helping; Weak Context Helping; No Helping) with theory of mind as the dependent variable was significant ($F(2,28) = 18.50$, $p < .001$, $\eta_p^2 = .569$). Paired-samples t-tests showed that, Strong Context Helping condition ($M = 5.05$ $SE = .23$) > Weak Context Helping condition, $t(29) = 3.26$ $p = .003$. While the spatial manipulation appears to have affected theory of mind, directly comparing the change in scene imagery across conditions ($M = 2.17$ $SE = .15$) compared to the change in theory of mind across conditions ($M = .53$ $SE = .16$) revealed the spatial manipulation more strongly affected scene imagery compared to theory of mind, $t(29) = 6.73$ $p < .001$.

Consistent with the results above, in Experiment 2, a repeated-measures ANOVA (Strong Context Helping; Weak Context Helping; No Helping) with theory of mind as the dependent variable was significant ($F(2,102) = 136.11$, $p < .001$, $\eta_p^2 = .572$). Paired-samples t-tests showed that Strong Context Helping condition ($M = 6.05$ $SE = .10$) > Weak Context Helping condition, $t(102) = 4.38$ $p < .001$. Directly comparing the change in scene imagery across conditions ($M = 1.06$ $SE = .09$) compared to the change in theory of mind across conditions ($M = .56$ $SE = .13$) showed the spatial manipulation more strongly affected scene imagery compared to theory of mind, $t(102) = 3.48$ $p = .001$.

Similarly, in Experiment 3, a repeated-measures ANOVA (Strong Context Helping; Weak Context Helping; No Helping) with theory of mind as the dependent variable was significant ($F(2,99) = 83.68$, $p < .001$, $\eta_p^2 = .458$). Paired-samples t-tests showed that Strong Context Helping condition ($M = 85.29$ $SE = 1.80$) > Weak Context Helping condition ($M = 78.53$ $SE = 2.10$), $t(99) = 3.376$ $p = .001$. Directly comparing the change in scene imagery across conditions ($M = 20.08$ $SE = 1.94$) compared to the

change in theory of mind across conditions ($M = 8.96$ $SE = 1.84$) showed the spatial manipulation more strongly affected scene imagery compared to theory of mind, $t (99) = 4.59$ $p = .001$. Considered together the consistent results across Experiments suggests that the spatial manipulation had the greatest effect on scene imagery as intended.

1.5. Episodic Simulation and Mind Perception

Experiments 1-3 demonstrated that imagining a helping episode increased theory of mind for the person in need, heightening the feeling of adopting the mental states of the person in need (i.e., considerations of what the person is thinking and feeling within the imagined episode), but it is possible that episodic simulation may also affect impact perceptions of the person's capacity for different kinds of mental states. Specifically, we examined whether episodic simulation was affecting attributions of a capacity for *experience* (e.g., feeling, sensing) and a capacity for *agency* (e.g., intention, thinking, planning; Gray, Gray, & Wegner, 2007), as attributions of experience and agency have differing consequences on moral judgments and responsibility (Gray & Wegner, 2009; Waytz & Young, 2014), and thus may mediate an effect of episodic simulation on willingness to help.

In Experiment 3, correlational analysis showed that scene imagery was associated with experience (Strong Context Helping ($r (98) = 0.66$, $p < .001$); Weak Context Helping ($r (98) = 0.28$, $p = .004$), with a significant difference in the strength of the association across conditions (Steiger's test: $z = 4.04$, $p < .001$). Correlational analysis showed that scene imagery was associated with agency (Strong Context Helping ($r (98) = 0.26$, $p = .009$); Weak Context Helping ($r (98) = 0.19$, $p = .057$), with no significant difference in the strength of the association across conditions (Steiger's test: $z = .58$, $p =$

.563). These results provide some evidence that the vividness of scene imagery was associated with agency and experience based on correlational analyses. Yet, the path analysis reported in the main manuscript suggests that agency and experience do not mediate an effect of episodic simulation on willingness to help. However, it may still be of broader interest to examine whether manipulating episodic simulation affects attributions of agency and experience.

Therefore, we looked for possible condition differences in agency and experience in Experiment 3. A repeated-measures ANOVA (Strong Context Helping; Weak Context Helping; No Helping) with experience as the dependent variable was significant (F (2,99) = 22.31, $p < .001$, $\eta_p^2 = .184$). Paired-samples t-tests showed that attributions of a capacity of experience in Strong Context Helping condition ($M = 88.92$ $SE = 1.54$) were greater than the Weak Context Helping condition ($M = 85.45$ $SE = 1.63$; t (99) = 3.01 $p = .003$) and the No Helping condition ($M = 79.13$ $SE = 2.28$; t (99) = 5.49 $p < .001$). Attributions of experience in the Weak Context Helping condition were greater than the No Helping condition, t (99) = 4.34 $p < .001$). A repeated-measures ANOVA (Strong Context Helping; Weak Context Helping; No Helping) with agency as the dependent variable was significant (F (2,99) = 6.68, $p = .002$, $\eta_p^2 = .063$). Paired-samples t-tests showed that that attributions of a capacity for agency in the Strong Context Helping condition ($M = 68.59$ $SE = 2.35$) was lower than in the Weak Context Helping condition ($M = 74.78$ $SE = 2.23$; t (99) = -3.02 $p = .003$) and the No Helping condition ($M = 74.66$ $SE = 2.39$; t (99) = 2.89 $p = .005$). Attributions of agency in the Weak Context Helping condition were not statistically different than in the No Helping condition, t (99) = .08 $p = .939$). We find this pattern of experience going up in the Strong Context Helping

condition while agency simultaneously goes down, intriguing, and would be predicted in part by the theory of dyadic morality that posits experience and agency are inversely related (Gray & Wegner, 2009; Schein & Gray, 2017)—though the Weak Context Helping condition increased experience but without lowering agency. Additionally, correlational analysis showed that experience and agency were positively associated (Strong Context Helping (r (98) = 0.57, p < .001); Weak Context Helping (r (98) = 0.78, p < .001). While it is beyond the scope of the current article, investigating how and when episodic simulation interact with mind perception will be an exciting topic for future research to further unpack.