Pain, Attitudes, and (In)Action: Divergent Legacies of Herbicidal Warfare in Vietnam*

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Abstract

We investigate the legacies of wartime violence with a formal model and a lab-in-the-field experiment involving Agent Orange victims in Vietnam, revealing two contrasting patterns. First, *attitudinal* change does not necessarily coincide with *behavioral* shifts. Past victimization is positively associated with empathy toward fellow victims—but only among direct victims (survivors), not indirect victims (family members). However, the heightened empathy does not translate into greater sharing in a Dictator Game. Second, *behavioral* change does not necessarily reflect *attitudinal* shifts. A Dictator Game with randomized receiver victimhood reveals that, unlike non-victims, direct and indirect victims do not adjust their choices in response to the receiver's victimhood—even though direct victims express greater empathy toward other victims. Formalizing intra-individual *persistence* and inter-individual *transmission* mechanisms, presented model nests both our field evidence of divergent patterns and existing insights of convergent or broadly prosocial legacies as special cases.

Keywords: Agent Orange; legacies; prosocial behavior; social norm; wartime violence

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Although the war has ended, the pain persists.
Survey respondent, Đà Nẵng, 2024

1 Introduction

How does wartime violence shape people's attitudes and behavior in post-conflict societies? War can leave attitudinal and behavioral legacies through two distinct pathways: first, attitudes and behavior *of* victims; and second, people's attitudes and behavior *toward* victims. Through a formal model and a lab-in-the-field experiment in Agent Orange-affected central Vietnam, we investigate (i) the attitudes and behavior *of* those with and without victimization, (ii) their attitudes and behavior *toward* victims, and (iii) the corresponding heterogeneity or difference-in-differences. We first formally derive the boundary conditions under which the attitudinal tendencies conditional on "my pain" (i.e., own exposure to Agent Orange) and the behavioral effect of "your pain" (i.e., others' exposure to Agent Orange) may converge or diverge, nesting the existing insights of prosocial legacies violence as special cases. We then provide field evidence that those *with* "my pain" exhibit heightened empathy toward victims while not changing behavioral choices in response to the "your pain" priming in a Dictator Game, whereas the opposite pattern holds for those *without* "my pain."

Focusing on the first pathway, previous studies demonstrate that individuals exposed to wartime violence often exhibit increased prosocial attitudes and behavior. For example, Blattman (2009) finds that former child soldiers in Uganda are more likely to engage in community activities and political participation despite their traumatic past. Voors et al. (2012) provide experimental evidence from Burundi, showing that individuals who have experienced violence display greater generosity in behavioral games. Bauer et al. (2016) present a meta-analysis with data from multiple conflict-affected regions and find that exposure to wartime violence fosters cooperative and altruistic behavior among victims.

While offering valuable insights, previous studies have largely overlooked the second pathway: how wartime violence alters people's attitudes and behavior toward victims. By

generating victims, war can affect patterns of social contact and interactions such that non-victims in post-war societies have more chance to face victims than in other societies. Related to this pathway, Charnysh and Riaz (2023), De Juan et al. (2023), and De Juan et al. (2024) demonstrate how witnessing others' victimization, in addition to own victimization experiences, alters bystanders' support toward the perpetrator and more general political attitudes. In a similar vein, Wayne et al. (2023) show that the Holocaust and socialization of group-level victimhood shape political attitudes, though not behavior, toward out-groups, even in the absence of personal or familial victimhood.

Moreover, the effects of social contact with victims do not necessarily be consistent across own victimhood, as well as attitudes and behavioral choices. Facing victims, for example, non-victims may adjust their behavior to reflect others' victimhood, while victims in a way that deviates from how victims would behave facing fellow victims. Indeed, Bauer et al. (2018) present a novel behavioral experiment in Uganda, revealing that priming the receiver's experience of long-term child soldiering increases trust game investments by parents of abducted children. Relatedly, insights from the psychology literature suggest that social contact can produce divergent effects on attitudes and behavior (Fishbein, 1967; Lapiere, 1934; Wicker, 1969). Recent experimental evidence also suggests that social contact and priming fosters altruistic behavior without inducing an attitudinal change (e.g., Paluck, 2009; Paluck and Green, 2009; Scacco and Warren, 2018). Yet little is known about the attitudinal and behavioral effects of exposure to others' victimization and heterogeneity across own victimization experiences, or difference-in-differences.

We investigate the understudied legacies, both theoretically and empirically. Theoretically, we develop a formal model that outlines the boundary conditions under which individuals' exposure to wartime violence, "my pain," and others' victimization, "your pain," jointly shape the choices in a Dictator Game, given the constraints imposed by social norms.[1]

[1]We extend the framework of Krupka and Weber (2013), which embeds norm compliance within a utility-based model. As introduced in Section 3, the model conceptualizes social norms as comprising two components: (i) shared expectations about how much non-victims should *help* victims, and (ii) how much victims should *accept* from non-victims. The theoretical predictions hinge on the balance between the additional

In one case, victims *broadly* exhibit generous or prosocial behavior, irrespective of the "your pain" condition, as documented in the literature (e.g., Bauer et al., 2016). In another, "your pain" leads victims to increase their sharing toward victim receivers, yielding a behavioral effect greater than that observed among non-victims—consistent with elevated empathy among victims for fellow victims (e.g., Dinas et al., 2021*a*; Hartman and Morse, 2020). This attitude-behavior *convergence* occurs when the additional empathy of victims outweighs the gap between the norms about (i) how much non-victims should support victims and (ii) how much victims should accept from non-victims. Conversely, a distinct pattern of *divergence* emerges when the gap between the two social norms overrides the additional empathy: non-victims adjust their sharing generously, while victims themselves do not, despite exhibiting greater empathy. We also derive the boundary conditions under which the behavioral effect of "your pain" depends on the form of victimization (e.g., survivors vs. family members). Accordingly, the model elucidates the conditions under which "your pain" shapes behavioral choices, and when attitudes and behavior converge or diverge, incorporating the prosocial attitudes and behavior of victims established in the literature as special cases.[2]

Empirically, we leverage a lab-in-the-field experiment with a hard-to-reach sample of Agent Orange survivors and their family members along with non-victims in Đà Nẵng, Vietnam to examine the theoretical predictions, yielding two major findings. First, consistent with the literature, historical victimization is positively associated with stated empathy toward other Agent Orange victims. However, this pattern is evident only among direct victims (survivors), not among indirect victims (family members). Moreover, the heightened empathy does not translate into behavioral change in a Dictator Game. Second, and unseen in the literature, results from an embedded Dictator Game with experimentally manipulated, randomized receiver's victimization status reveals a divergent pattern: unlike non-victims, victims do not change their choices based on the receiver's victimization status. While non-

empathy of victims toward fellow victims and the gap between these two norms.

[2]The model also provides a parsimonious framework that incorporates the intra-individual "persistence" channel (e.g., empathy of victims) and the inter-individual "transmission" channel (e.g., shared social norms), both of which underlie the legacies of political violence (Walden and Zhukov, 2020).

victims share a greater amount toward victims, past victimization and increased empathy do not translate into the behavior change among direct or indirect victims. Furthermore, we find little evidence that the same experimental manipulation of receiver's victimhood affects the stated empathy toward victims among victim or non-victim respondents. Data-driven, causal forest estimates confirm significant heterogeneity in the treatment effect of the randomized receiver victimhood across sender's victimization experience, while revealing little effect heterogeneity depending on other respondent- or household-level attributes. Supplementary topic modeling reveals indicative patterns in open-ended survey responses consistent with the model's assumptions.

Collectively, the results uncover two contrasting attitude-behavior inconsistencies. First, past victimization is positively associated with stated empathy toward fellow victims (attitudes), but not with Dictator Game sharing (behavior). Second, experimental priming of receiver's victimhood leads to increased Dictator Game sharing among non-victims, without inducing changes in stated empathy. While rarely connected to the literature on historical legacies, the attitude-behavior inconsistency has been long-noted in the psychology literature (e.g., Fishbein, 1967; Lapiere, 1934; Wicker, 1969). Our field evidence reveals the previously-overlooked legacies of wartime violence that resonate the established insights.

This article advances broader literature in several ways. First, this article expand the literature on the legacies of wartime violence and historical events by revealing the moderation effect of victimization in altering people's behavior. Previous studies primarily focus on how victimization shapes attitudes and behavior *of* victims, yet past events also leave lasting legacies on how people respond *toward* others' victimhood. As we highlight, victims and non-victims also differ in their attitudinal and behavioral responses toward others' victimhood. Second, our study also carries implications for the literature on the inconsistency between stated attitudes and revealed behavior, both empirically and theoretically. Empirically, our findings document contrasting inconsistencies between past victimization and experimentally-manipulated victimhood, on the one hand, and attitudinal and behavioral

outcomes, on the other. Theoretically, the presented model not only nests the findings as a special case, but also lays out the general conditions under which attitude-behavior associations would be either convergent or divergent, providing microfoundations of the literature.

This article proceeds as follows. The next section reviews related literature, and Section 3 presents the model. Section 4 lays out the experiment design, followed by the reduced-form results in Sections 5 and 6. Section 7 reports supplementary topic model estimates, and Section 8 addresses robustness concerns and alternative explanations. Section 9 concludes.

2 Violence, Attitudes, and Behavior

The idea of lasting legacies of war is not new, and the past decades have witnessed a surge in empirical investigations showing how political violence persistently shapes people's attitudes and behavior.[3] A primary finding is that war persistently affects the attitudes and behavior of victims, potentially across generations and beyond immediate victims. Exposure to wartime violence, for example, fosters empathy toward vulnerable groups, altruism, and civic and political engagement (e.g., Bellows and Miguel, 2006; Blattman, 2009; Gilligan et al., 2014; Lindsey and Koos, 2025; Voors et al., 2012; but see Barceló, forthcoming).

Beyond immediate legacies, several studies investigate how past victimization and contemporary priming jointly shape people's attitudes and behavior. For instance, Wayne and Zhukov (2022) and Dinas et al. (2021*a*,*b*) show how survivors of past violence and their descendants respond differently to the experimental priming of others' suffering compared with non-victims, leading to differential attitudes toward vulnerable outgroup members. Holocaust survivors and their descendants, for example, are less susceptible to experimental priming of the "never again" imperative and show supportive attitudes toward refugees, the responses of non-Jews and Jews without survivor relatives are swayed depending on the experimental manipulation (Wayne and Zhukov, 2022, see also, Shelef and VanderWilden, 2025; Wayne et al., 2023). Dinas et al. (2021*a*) report similar divergent effects, such that priming

[3]See, for example, Bauer et al. (2016) and Walden and Zhukov (2020) for a review.

of past and present forced relocation increases attitudinal and quasi-behavioral measures of sympathy for modern day refugees among descendants of forced migrants but not among non-descendants in Greece and Germany. Bauer et al. (2018) present an unique experiment with behavioral games, combined with a randomized manipulation of the receiver's experiences of child soldering in Uganda. They find, among others, that priming the receiver's experience of "long" (around a year), though not "short" (around one month), abduction is positively associated with trust game investments among the parents of child soldiers.[4]

These findings highlight the interplay between historical victimization and post-war factors, underscoring the role victimization as a non-randomizable moderator of a randomizable experimental treatment that shapes people's attitudes and behavior. This "victimization-as-moderator" perspective not only illuminates relatively underexplored pathways through which historical events shape contemporary outcomes, but also offers a way to mitigate the identification challenges inherent in the commonly used "victimization-as-treatment" approach. For instance, individuals exposed to wartime violence may systematically differ from those who are not, such that those with more prosocial dispositions may be more likely to experience victimization. The "victimization-as-moderator" perspective helps mitigate inferential threats by leveraging randomizable experimental manipulations.

What remains less clear is how war alters people's attitudes and behavior *toward* victims, how these effects deviate from those *of* own victimization, and how the effects vary depending on past victimhood. While yielding insightful findings on how violence shapes victims' attitudes and behaviors, previous studies have largely overlooked how victimization alters those of non-victims in postwar societies. Related to this pathway, Charnysh and Riaz (2023), De Juan et al. (2023), and De Juan et al. (2024) demonstrate how witnessing others' victimization or indirect exposure to violence, in addition to individual-level direct exposure to political violence, affects bystanders' support toward the perpetrator and more general political attitudes. In a similar vein, Wayne et al. (2023) show the Holocaust and socialization

[4]Although not focusing on victimization, Whitt and Wilson (2007) also present a Dictator Game experiment with a randomized receiver's ethnicity to examine in/outgroup behavior in a post-conflict setting.

of group-level or collective victimhood shape political attitudes, though not behavior, toward out-groups, even in the absence of personal or familial victimization experiences.

Furthermore, postwar societies often exhibit altered patterns of social contact and interactions, where non-victims more frequently engage with victims, potentially generating attitudinal and behavioral changes even among non-victims. While victims often deviate away from equilibrium behavior in behavioral games in an altruistic way (e.g., Bauer et al., 2014, 2016; Gilligan et al., 2014; Voors et al., 2012), non-victims would also change their behavior when facing victims. This intuition is consistent with the findings that victims and non-victims show differing attitudinal (Dinas et al., 2021*b*; Wayne and Zhukov, 2022) and behavioral responses to experimental manipulations (Bauer et al., 2018; Dinas et al., 2021*a*).

In principle, social contact and exposure to others' experiences can affect attitudes and behavior of both victims and non-victims, yet their attitudinal and behavioral effects do not necessarily evolve consistently. Echoing the longstanding insights (Fishbein, 1967; Lapiere, 1934; Wicker, 1969), recent experimental evidence suggests divergent effects, such that single priming can have behavioral effects (e.g., altruistic choices) without inducing meaningful attitudinal changes (e.g., empathy toward vulnerable groups). For example, Adida et al. (2018) show divergent effects of a perspective-taking treatment on attitudinal and behavioral measures of support for refugees. Paluck (2009), Paluck and Green (2009), and Scacco and Warren (2018) also provide field evidence for similar divergent effects.

Moreover, the attitudinal and behavioral effects of social contact may be contingent on individuals' past victimization experiences and can diverge from the effects of personal victimization. For instance, social contact might increase empathy without promoting behavioral change among non-victims, while fostering both among victims. Likewise, the effects of social contact or exposure to others' victimization may differ from those of exposure to wartime violence documented in previous studies. A better understanding of legacies of war requires insights into how wartime violence shapes both victims' and non-victims' attitudes and behavior toward victims, along with the corresponding difference-in-differences.

3 Model

Treating attitudinal effects as an empirical question, we develop a formal model to account for behavioral responses to others' victimhood, "your pain," in a Dictator Game widely employed in the literature (Bauer et al., 2016; Walden and Zhukov, 2020). The focus on the nonstrategic setting also allows us to rule out behavioral changes driven by expectations about how opponents (receivers) will behave based on their victimization experiences (Bauer et al., 2016, 270; Krupka and Weber, 2013, 497), thereby isolating behavioral changes attributable to experimental manipulations and factors on the sender's side.

3.1 Setup and Interpretation

We describe a Dictator Game in which a respondent (i.e., "sender") makes a single decision on how much money to share with a "receiver."[5] Denote a respondent's initial endowment and actual sharing in the game by M and m, respectively. Clearly, we would obtain $m^* \equiv \arg\max_m M - m = 0$ as a unique optimal choice (i.e., a unique Nash equilibrium if we consider this decision problem as a game) if the respondent's payoff is solely defined in terms of material gains.

Here, we extend the simple framework by Krupka and Weber (2013) that incorporates the role of social norms in a similar context. Define a participant's payoff function as $u\left(x, \Psi(m)\right)$, where x is the respondent's material gain and $\Psi(m)$ is her nonmaterial or psychological payoff. By the budget constraint $M = x + m$, we have $x = M - m$. Let the function Ψ be weakly increasing in the sharing m with a decreasing marginal return: $\frac{\partial \Psi}{\partial m} \geq 0$ for any m; $\frac{\partial \Psi(0)}{\partial m} > 0$; $\lim_{m\to\infty} \frac{\partial \Psi}{\partial m} = 0$; and $\frac{\partial^2 \Psi}{\partial m^2} \leq 0$ for any m. We assume that $u(\cdot, \cdot)$ is quasi-linear such that $u\left(x, \Psi(m)\right) = x + \Psi(m) = M - m + \Psi(m)$. This implies that, by the first-order condition, $\frac{\partial \Psi(m)}{\partial m} = 1$ holds under an optimal m.

Specifically, we assume that the respondent (sender) in the Dictator Game has a nonmaterial or psychological bliss point and incurs a quadratic loss when m is smaller than it.

[5] In our experiment, we randomly assign the receiver's status of herbicide victimhood.

Denote the bliss point by a function $\psi(s, r; \theta)$, where θ is a vector of parameters discussed below. First, vector $s = (s_h, s_d)$, where $s_h, s_d \in \{0, 1\}$, represents the victim status of the sender. The first component s_h is a binary indicator that the respondent is from a victim household. The second component s_d takes the value of one when the respondent is a direct victim and zero when she is an indirect victim (family member of a direct victim). For simplicity, we denote $s = 0$ when $s_h = 0$ to refer to a non-victim, $s = 1$ when $(s_h, s_d) = (1, 1)$ (direct victim), and $s = \mathtt{i}$ when $(s_h, s_d) = (1, 0)$ (indirect victim). Second, $r \in \{0, 1\}$ is the receiver's victim status, where the value of one denotes victimhood. Note that we do not distinguish direct and indirect victimhood for the receiver.

Now we define the nonmaterial payoff.

$$\Psi(m) \quad = \quad \begin{cases} -\zeta \left(\psi(s, r; \theta) - m\right)^2 & (m < \psi(s, r; \theta)) \\ 0, & (\text{otherwise}) \end{cases}$$

where $\zeta \geq 0$ is a parameter that determines the weight she puts on the nonmaterial component. We specify how the nonmaterial component in the sender's payoff varies over her own and the receiver's victim statuses. Given a vector of parameters $\theta = (\alpha_{\mathcal{P}0}, \alpha_{\mathcal{P}1}, \alpha_{\mathcal{T}}, \overline{\sigma}, \underline{\sigma}, \iota) \in \mathbb{R}^6$, define sender's psychological bliss point $\psi(s, r; \theta)$ as

$$\begin{aligned} \psi(s, r; \theta) &= \mathcal{P}(s, r) + \mathcal{T}(s, r) + \varepsilon, \text{ where} \\ \mathcal{P}(s, r) &\equiv (\alpha_{\mathcal{P}0} + \alpha_{\mathcal{P}1} r)\, s_h s_d \text{ and} \\ \mathcal{T}(s, r) &\equiv (\alpha_{\mathcal{P}0} + \alpha_{\mathcal{P}1} r)\, s_h(1 - s_d)\iota + (\alpha_{\mathcal{T}} + (1 - s_h)\overline{\sigma})\, r - s_h(1 - r)\underline{\sigma}. \end{aligned}$$

We move on to the interpretation of the model. Following the typology of Walden and Zhukov (2020), we suppose that researchers observe the legacies through two pathways: intra-individual *persistence* and inter-individual *transmission*. In the nonmaterial bliss point $\psi(s, r; \theta)$, the first term $\mathcal{P}(s, r)$ and the second term $\mathcal{T}(s, r)$ refer to the effects of persistence and transmission, respectively. The third term, ε, represents factors not captured by $\mathcal{P}(s, r)$

and $\mathcal{T}(s,r)$, which is assumed to be a random variable with mean zero that is independent and identically distributed across individuals.

We begin with the persistent legacies, $\mathcal{P}(s,r)$. Following Walden and Zhukov (2020), we define persistence narrowly as the effects of *first-hand* exposure to wartime violence, implying that this term is relevant only to direct victims ($s_h = s_d = 1$). The parameters $\alpha_{\mathcal{P}0}$ and $\alpha_{\mathcal{P}1}$ represent the *attitudinal* legacies of herbicide victims. The former stands for a victim's persistent empathy toward all members of society. The latter, $\alpha_{\mathcal{P}1}$, denotes a victim's additional persistent empathy toward other herbicide victims. Thus, if $\alpha_{\mathcal{P}0}, \alpha_{\mathcal{P}1} > 0$, a victim has a more pro-social attitude compared to a non-victim respondent.

Next, consider the effect of transmitted legacies, $\mathcal{T}(s,r)$. The first term, $(\alpha_{\mathcal{P}0} + \alpha_{\mathcal{P}1} r)\, s_h(1 - s_d)\iota$, assumes that an indirect victim ($s = \texttt{i}$) partially inherits the persistent legacies of the survivor(s) in her family. This socialization process among family members has the shortest path of transmission. Note that we merely assume $\iota \in \mathbb{R}$. It could be the case that an indirect victim becomes more empathetic than survivors ($\iota > 1$) because of interactions with the direct victims in their family. Conversely, if she has faced social stigma and borne financial or psychological burdens as a family of herbicide survivors, she could even discriminate against the direct victims and become hostile toward other members in the society ($\iota < 0$).

The second term, $(\alpha_{\mathcal{T}} + (1 - s_h)\overline{\sigma})\, r$, represents two effects of transmitted logacies of wartime violence when the respondent is facing a victim receiver ($r = 1$). The first one relates to an attitudinal influence of wartime violence widely shared in a given society. Namely, $\alpha_{\mathcal{T}}$ indicates the level of empathy toward victims, which all members of society commonly possess. The second component, $(1 - s_h)\overline{\sigma}$, describes the effect of *social norms*. That is, $\overline{\sigma}$ denotes a shared perception on how much non-victims should share with victims. A positive $\overline{\sigma}$ implies that members of society widely accept that non-victims should provide more support for victims of wartime violence. A negative value, on the other hand, would mean discrimination against victims.

The third term in the transmission effect, $-s_h(1-r)\underline{\sigma}$, also pertains to social norms. This

appears when the sender and the receiver constitute the other asymmetric dyad (i.e., $s = 1, r = 0$). As above, $\underline{\sigma}$ indicates a shared perception about how much victim senders should take from non-victim receivers. When $\underline{\sigma}$ is positive, it implies a widely shared perception that victims deserve more financial resources. A negative $\underline{\sigma}$ would indicate self-discrimination. We normalize social norms regarding symmetric dyads ($s = r = 0$ and $s = r = 1$) to zero.

3.2 Predictions

The Dictator Game with the additional nonmaterial component yields the straightforward solution denoted by $m^*(s, r; \theta)$.

Proposition 1 *The unique optimal choice in the Dictator Game with the nonmaterial component $\psi(s, r; \theta)$ is*

$$m^*(s,r;\theta) = \begin{cases} 0 & \left(\psi(s,r;\theta) < \frac{1}{2\zeta}\right) \\ \psi(s,r;\theta) - \frac{1}{2\zeta} & \left(\psi(s,r;\theta) \in \left[\frac{1}{2\zeta}, M + \frac{1}{2\zeta}\right]\right) \\ M & \left(\psi(s,r;\theta) > M + \frac{1}{2\zeta}\right). \end{cases}$$

Based on the simple solution, the model enables us to present specific conditions under which a particular result should appear in the experiment. To this end, observe that we have defined parameters so that victims (either sender or receiver) receive more money as their values increase. For example, the last term in $\mathcal{T}(s, r)$ has a negative sign. Thus, when a large positive value of $\underline{\sigma}$ induces a victim sender to retain more money. This formulation facilitates the intuition below.

Aggregated Differences First, the following result shows when (i) victims are generally more pro-social and (ii) all members in society are more generous to victims.

Corollary 1 *(i) Suppose* $\alpha_{\mathcal{P}0} + \alpha_{\mathcal{P}1} \geq \overline{\sigma}$ *and* $\alpha_{\mathcal{P}0} \geq \underline{\sigma}$*. Then,*

$$\underbrace{m^*(1, r; \theta)}_{\text{“My pain”}} \geq m^*(0, r; \theta) \qquad r \in \{0, 1\}.$$

(ii) Suppose $\alpha_{\mathcal{P}1} \geq -\alpha_{\mathcal{T}} - \underline{\sigma}$ *and* $0 \geq -\alpha_{\mathcal{T}} - \overline{\sigma}$*. Then*

$$\underbrace{m^*(s, 1; \theta)}_{\text{“Your pain”}} \geq m^*(s, 0; \theta) \qquad s \in \{0, 1\}.$$

The results in the corollary are straightforward. Note that the left-hand side and right-hand side in each condition show the persistence and transmission mechanisms of legacies of political violence, respectively. Thus, (i) victims are generally “nicer” to others when, almost by definition, the empathy of victims ($\alpha_{\mathcal{P}0}$ and $\alpha_{\mathcal{P}1}$) exceeds the effects of social norms about how much the community should support them. On the other hand, (ii) all members in society are “nicer” to victims as long as they do not discriminate against the victims (large $\alpha_{\mathcal{T}}$, $\overline{\sigma}$, and $\underline{\sigma}$). Part (i) of the corollary summarizes the conditions under which the primary finding in the literature that wartime violence fosters altruistic behavior by victims holds (Bauer et al., 2016).

Heterogeneous Effects Second, we are interested in the treatment effects of herbicide victimhood on pro-social behavior. We can interpret the model in terms of heterogeneous treatment effects (HTE) conditional on the sender's victimhood status. To this end, introduce the following notations to define the theoretical analogues to empirical terms. Define survey respondent i's treatment as $R_i \in \{0, 1\}$, where the value of one represents that she is assigned a victim receiver. Similarly, denote i's observed victim status as S_i. Then, we denote i's Dictator Game sharing as a potential outcome by $Y_i(R_i)$. Based on the above notation, we consider the equilibrium sharing in the formal model as individual i's potential outcome given treatment $R_i = r$ and victim status $S_i = s$.

Assumption 1 *We can interpret* $m^*(s, r; \theta) = (Y_i(R_i = r)|S_i = s)$.

Moreover, define the HTE conditional on $S_i = s$ as $\tau(s) \equiv \mathbb{E}[Y_i(1) - Y_i(0)|S_i = s]$. We say that a respondent's attitude and behavior are *convergent* if $\tau(1) \geq \tau(0)$ and *divergent* otherwise. Now we are ready to present our main theoretical prediction.

Corollary 2 *A sender's attitude and behavior are convergent if and only if* $\alpha_{\mathcal{P}1} \geq \overline{\sigma} - \underline{\sigma}$.

We can situate the results in existing studies as special cases of the above model. Consider the inequality $\alpha_{\mathcal{P}1} \geq \overline{\sigma} - \underline{\sigma}$, the condition in Corollary 2. When $\alpha_{\mathcal{P}1}$ is large enough, the model becomes consistent with those studies that find convergent results. Recall that $\alpha_{\mathcal{P}1}$ expresses the *additional* empathy of a victim toward other victims. That is, if the persistent positive attitude of a victim sender toward other senders is larger than the difference between norms about (i) how much non-victims should give to victims and (ii) how much victims should take from non-victims, then the attitude toward victims directly translates into behavior (e.g., Dinas et al., 2021*a*; Hartman and Morse, 2020).

On the other hand, when $\alpha_{\mathcal{P}1} < \overline{\sigma} - \underline{\sigma}$, attitude (empathy toward victims) and behavior (Dictator Game sharing) diverge. Recall that $\alpha_{\mathcal{P}1}$ reflects a victim's persistent (additional) empathy toward other victims. The right-hand side pertains to the transmission mechanism. If the members in the society share the perception that non-victims should help victims more (large $\overline{\sigma}$) but victims should not take too much from non-victims (small $\underline{\sigma}$), then attitudes toward victims and pro-social behavior should not be convergent.

In the second (divergent) case, where $\alpha_{\mathcal{P}1} < \overline{\sigma} - \underline{\sigma}$, we can interpret the large value of $\overline{\sigma} - \underline{\sigma}$ as a product of collective victimhood and societal transmission of herbicide legacies. Recall that a larger $\overline{\sigma}$ indicates a shared perception that non-victims should share more with victims. This social norm can arise from education on national history and other forms of *institutionalization* of legacies (Walden and Zhukov, 2020). A smaller $\underline{\sigma}$ can represent a shared perception that all members in a society with a history of wartime violence are equally "victims," regardless of the first-hand exposure to violence. Such perceptions would induce survivors and their family members to refrain from demanding more from non-victims.

Disaggregating Victimhood The third prediction is on the role of *indirect* victimhood. We have assumed that an indirect victim has a parameter ι that determines how her interactions with the survivors in her family transmit a direct victim's persistent empathy to the former's preference. We are also interested in when different forms of victimhood translate into changes in altruistic behavior.

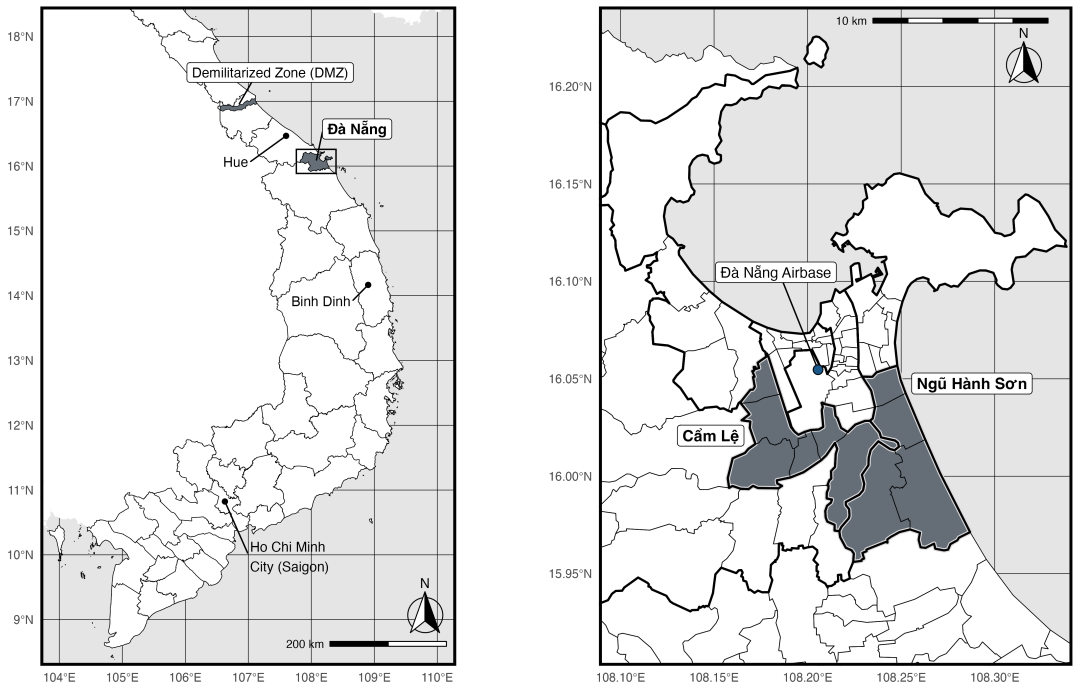
Corollary 3 *Suppose $\alpha_{\mathcal{P}1} \neq 0$. Then, when $\alpha_{\mathcal{P}1}$ is positive, $\tau(\boldsymbol{i}) \geq \tau(1)$ if and only if $\iota \geq 1$, and $\tau(\boldsymbol{i}) \geq \tau(0)$ if and only if $\iota \geq \frac{\overline{\sigma}-\underline{\sigma}}{\alpha_{\mathcal{P}1}}$. When $\alpha_{\mathcal{P}1}$ is negative, $\tau(\boldsymbol{i}) \geq \tau(1)$ if and only if $\iota \leq 1$, and $\tau(\boldsymbol{i}) \geq \tau(0)$ if and only if $\iota \leq \frac{\overline{\sigma}-\underline{\sigma}}{\alpha_{\mathcal{P}1}}$.*

This result is also straightforward. Suppose $\alpha_{\mathcal{P}1} > 0$: victims are more empathetic toward other victims, for which our experiment finds evidence below. Intuitively, one's indirect exposure to violence would discount the empathy toward other victims ($\iota \leq 1$) because she does not have first-hand experiences. On the other hand, when the second-hand exposure to wartime violence reinforces the empathy of indirect victims toward other victims (large ι), the treatment effect of "your pain" on sharing behavior could even become the largest. When victims have a self-discriminatory attitude toward other victims ($\alpha_{\mathcal{P}1} < 0$), indirect victimhood has the opposite effect.

4 Experiment Design

To examine the theoretical predictions, we rely on a lab-in-the-field experiment involving Agent Orange survivors and their family members, along with non-victims in Đà Nẵng, Vietnam, with three components: sociodemographic questions, a Dictator Game, and questions measuring empathy toward Agent Orange victims, followed by an open-ended question about thoughts on the victims.[6] To facilitate causal identification, we randomly manipulate the receiver victimhood in the Dictator Game. We also randomize the timing of the game relative to the sociodemographic questions to address potential ordering effects.

[6]See Appendix A for research ethics.



(a) Đà Nẵng, Vietnam (b) Survey Districts

Figure 1: Study Area

Note: (a) Lines represent provincial boundaries as of September 2024. Dark color indicates the former demilitarized zone (DMZ) and the city of Đà Nẵng. (b) Bold (thin) lines represent district (ward) boundaries. Dark color indicates the survey area, Cẩm Lệ and Ngũ Hành Sơn districts.

4.1 Study Area and Sampling

The experiment was fielded in Cẩm Lệ and Ngũ Hành Sơn *Quận* (districts) of Đà Nẵng in September 2024, which hosted one of the two major US airbases, alongside Bien Hoa in Saigon, used for herbicidal warfare in Operation Ranch Hand (1962–1971; Figure 1). Cẩm Lệ and Ngũ Hành Sơn are suburban districts with the highest number of Agent Orange survivors relative to their population size. Importantly, unlike central districts such as Hải Châu and Quận Thanh Khê, where houses were often leased for commercial purposes, household members typically reside at their registered addresses in Cẩm Lệ and Ngũ Hành Sơn. These two districts thus allow us to conduct a survey with predetermined households.

We employed a mixed sampling strategy to obtain a sample of 436 household representatives.[7] First, using the administrative lists in ten *Phường* (wards) of the two districts, we

[7]We initially aimed to collect 600 respondents, resulting in a sample of 436 participants with a response

attempted to visit *all* 398 registered households with Agent Orange survivors (victim households).[8] We reached representatives of 209 victim households, resulting in a response rate of 52.51%. We then employed a proportional sampling strategy to select households without survivors (non-victim households). In total, we randomly visited thirty neighborhood groups, each comprising ten randomly selected households. The number of neighborhood groups in each ward was proportional to the ward's share of the total households across the two districts. This procedure yielded a sample of 227 non-victim households.

4.2 Manipulation and Measurement

Observed Victimhood We rely on two indicators of victimhood. First, to measure household-level exposure, we use the administrative records compiled by the district governments. The household-level indicator, "my pain," is coded as a dummy variable that takes a value of one for respondents whose households include one or more survivors and zero otherwise, regardless of the respondents' own victimhood. Second, to measure respondent-level exposure, we use self-reported responses to distinguish direct victims (survivors) from indirect victims (family members). Due to genetic transmission and residual contamination, both mid-war victims and postwar-generation descendants are classified as direct victims.

Each measure has distinct advantages and limitations. The household-level official records partially mitigate measurement errors associated with self-reported responses to traumatic experiences (e.g., Lindsey and Koos, 2025). However, this measure masks personal experiences. In contrast, the respondent-level indicator distinguishes between direct and indirect victims, enabling a nuanced investigation. Nonetheless, its self-reported nature may invite non-classical measurement errors. Indeed, a victim respondent expressed fear of "social discrimination," being "afraid of the community knowing and shunning because I am a victim of Agent Orange." We incorporate both of the two indicators to mitigate these limitations.

rate of 72.7% within the period. Admittedly, the sample violates the sampling strategy due to the availability of the respondents and investigators, along with adverse weather events in central and northern Vietnam during our experiment, including typhoon *Yagi*, the most powerful typhoon in Southeast Asia in 2024.

[8]The list of the registered households with survivors was provided by the district governments.

Experimental Manipulation We randomly manipulate two treatments.[9] The first and primary treatment, "your pain," manipulates the receiver's victimhood in the Dictator Game to examine attitudinal and behavioral effects of others victimization. In the treatment condition, the respondent is told that the receiver is from a household with victims, whereas in the control condition, the receiver is from a household without victims.[10] The second treatment manipulates the timing of the game relative to the sociodemographic questions. In the control condition, respondents play the game before answering the sociodemographic questions, whereas in the treatment condition, the game is placed after the sociodemographic questions, but before the empathy questions described below. Although not our primary focus, randomized timing allows us to account for potential order effects.

Outcomes and Covariates We collect two outcome measures: stated empathy toward Agent Orange victims and sharing in a simple Dictator Game. First, the attitudinal outcome, stated empathy toward herbicide victims, is measured as the simple average of three ten-point Likert-scale questions assessing the degree of empathy toward Agent Orange victims. Following Balmas et al. (2024), we asked respondents to rate their responses on a ten-point scale for the following questions: "empathy toward Agent Orange victims in their predicament," "concern for the well-being of Agent Orange victims," and "fear for the fate of Agent Orange victims" (Cronbach's $\alpha = 0.896$; 95% CI: 0.875 0.914). These three Likert-scale questions are always presented after the Dictator Game, allowing us to identify the potential effect of "your pain" on both attitudinal and behavioral responses.[11]

Second, our behavioral outcome is the sharing in the Dictator Game. Since the receiver

[9]We used simple randomization without blocking primarily due to technical constraints in the field. At the cost of increased uncertainty, it also ensures that our treatments are assigned randomly across direct and indirect victims, which we code based on self-reported responses and are not observable outside the field.

[10]The treatment condition is: "How much of the 80,000 VND would you like to share with an anonymous receiver from a household with Agent Orange victims?"; the control condition is: "How much of the 80,000 VND would you like to share with an anonymous receiver from a household with no Agent Orange victims?" In both conditions, the receiver is assumed to be residing in the same ward as the sender (respondent).

[11]The survey order is as follows: In the "Dictator Game (DG) at the end" condition (treated condition for the DG timing treatment), (1) sociodemographic questions, (2) DG, and (3) empathy questions, and in the "DG at the beginning" condition (control), (1) DG, (2) sociodemographic questions, and (3) empathy questions. The open-ended question is placed after the DG and these questions in both conditions.

has no power to influence the dictator's (respondent's) decision and cannot repay the dictator, any positive amount given indicates that the dictator derives utility from benefiting others. Respondents chose how much of the 80,000 VND, approximately four times the minimum hourly wage in Đà Nẵng (21,200 VND $\approx$ 0.9 USD at the time of the experiment), they are willing to share with an anonymous receiver residing in the same ward, in increments of 10,000 VND. The respondents received the remaining amount, and, once the entire experiment was completed, the shared amount was sent to another randomly selected respondent from the same ward reflecting the "your pain" condition. Importantly, when respondents made their allocation decisions in the Dictator Game, they had not yet received any sharing from others; at the time of the experiment, they only had the initial 80,000 VND in hand and were unaware of how much they might later receive if assigned to the receiver role.[12]

While attitudes and behavior are often expected to be correlated (e.g., Hartman and Morse, 2020), we collect both measures reflecting the recent findings that single experimental priming can have divergent effects on attitudes and behavioral choices (e.g., Adida et al., 2018; Paluck, 2009; Scacco and Warren, 2018). Combined with the "your pain" treatment, these attitudinal and behavioral outcomes allow us to measure stated and revealed favoritism toward, or discrimination against, Agent Orange victims.

We also collect eighteen household- and respondent-level covariates including educational attainment, gender, and income, along with measures of social group participation and leadership. Appendix C reports summary statistics and pairwise correlations of the variables. While the social group outcomes inform the literature, we relegate the corresponding estimates on these non-preregistered measures to Appendix D.

4.3 Estimation Strategy

Model Specification We begin our empirical analysis with the following OLS model to estimate the average treatment effect (ATE) of the experimental treatment and the corre-

[12]The "anonymous receiver residing in the same ward" condition guards against social distance that could affect the allocations decisions (Engel, 2011, 596–597).

sponding heterogeneous treatment effect (HTE) conditional on observed victimhood:

$$\begin{aligned} Y_i = {} & \gamma \text{MyPain}_i + \tau \text{YourPain}_i + \eta \text{GameTiming}_i + \delta \text{MyPain}_i \times \text{YourPain}_i \\ & + \boldsymbol{\beta}' \boldsymbol{X}_i^{\text{HH}} + \boldsymbol{\phi}' \boldsymbol{X}_i^{\text{R}} + \text{Week}_{w(i)} + \epsilon_i, \end{aligned} \tag{1}$$

where i indexes individuals and Y is the attitudinal (stated empathy) or behavioral (Dictator Game sharing) outcome. MyPain, YourPain, and GameTiming are binary indicators that, respectively, take the value of one if respondent i is a direct (survivor) or indirect victim (family member), plays a Dictator Game assuming a victim receiver, and plays a Dictator Game at the end of the survey and zero otherwise. $\boldsymbol{X}_i^{\text{HH}}$ and $\boldsymbol{X}_i^{\text{R}}$ are household- and respondent-level covariates, and $\text{Week}_{w(i)}$ denotes week fixed effects.[13]

The parameters of interest are τ and δ, which, respectively, capture the ATE of the "your pain" treatment and HTE, or the difference-in-differences between victims' and non-victims' responses. γ reflects the association between past victimhood and the outcomes. While the non-random nature of victimization prevents a causal interpretation, γ helps validate the model assumptions and assess whether existing insights travel to the Vietnamese context.

To further investigate effect heterogeneity across personal victimhood, we estimate the following model with two respondent-level indicators, DirectVictim (survivors) and IndirectVictim (family members) replacing the "my pain" variable:

$$\begin{aligned} Y_i = {} & \gamma_1 \text{DirectVictim}_i + \gamma_2 \text{IndirectVictim}_i + \tau \text{YourPain}_i + \eta \text{GameTiming}_i \\ & + \delta_1 \text{DirectVictim}_i \times \text{YourPain}_i + \delta_2 \text{IndirectVictim}_i \times \text{YourPain}_i \\ & + \boldsymbol{\beta}' \boldsymbol{X}_i^{\text{HH}} + \boldsymbol{\phi}' \boldsymbol{X}_i^{\text{R}} + \text{Week}_{w(i)} + \epsilon_i. \end{aligned} \tag{2}$$

Link to the Model and Supplementary Analysis In Equation 1, assuming that victims are weakly more empathetic toward other victims (i.e., $\gamma \geq 0$ on stated empathy, or $\alpha_{\mathcal{P}1} \geq 0$ in the model), δ on the behavioral outcome (Dictator Game sharing) directly tests

[13] We include week fixed effects to address potential effects of adverse weather events noted in footnote 7.

Corollary 2. If $\alpha_{\mathcal{P}1} \geq \overline{\sigma} - \underline{\sigma}$, we expect increased empathy to translate into greater sharing by victims toward other victims, resulting in $\delta \geq 0$. Conversely, if $\alpha_{\mathcal{P}1} < \overline{\sigma} - \underline{\sigma}$, the model predicts a divergence between attitudes and behavior, such that non-victims offer more to victims than victims themselves, yielding $\delta < 0$, despite victims' elevated empathy.

In Equation 2, δ_1 and δ_2 on the behavioral outcome allow us to examine the model's predictions. If persistent empathy of direct victims is sufficiently strong ($\alpha_{\mathcal{P}1} \geq \overline{\sigma} - \underline{\sigma}$) and the familial transmission is large enough ($\iota \geq \frac{\overline{\sigma} - \underline{\sigma}}{\alpha_{\mathcal{P}1}}$), then Corollaries 2 and 3 predict that both direct and indirect victims respond to "your pain" with increased sharing in the Dictator Game, leading to $\delta_1 \geq 0$ and $\delta_2 \geq 0$. Conversely, if $\alpha_{\mathcal{P}1} < \overline{\sigma} - \underline{\sigma}$ and $\iota < \frac{\overline{\sigma} - \underline{\sigma}}{\alpha_{\mathcal{P}1}}$, then we expect the opposite coefficient signs. In this case, neither direct nor indirect victims increase sharing in response to "your pain," yielding $\delta_1 < 0$ and $\delta_2 < 0$, assuming $\tau > 0$ (Corollary 1). In addition, while remaining suggestive given the hardly-exogenous nature of past victimhood, γ_1 and γ_2 on the attitudinal outcome help validate $\alpha_{\mathcal{P}1}$ and ι.

We also present two layers of additional estimates. First, to explore not pre-specified sources of effect heterogeneity, we report data-driven, causal forest estimates (Wager and Athey, 2018). Second, we leverage topic modeling to discover latent topics in the open-ended responses and their associations with respondent attributes and experimental treatments (Roberts et al., 2013, 2014). Although not preregistered and remaining suggestive, this approach helps validate the sense of collective victimhood and social norms, which are crucial to the presented formal model.

4.4 Covariate Balance

Table 1 presents balance statistics for the experimental treatments. Consistent with the randomization, the covariates and, importantly, three victimization indicators are broadly balanced across the treatment conditions, with negligible absolute standardized mean differences (ASMD) and Kolmogorov-Smirnov (KS) statistics. Taking a closer look at balance on individual covariates, a substantively small exception is family size across the "your pain"

Table 1: Covariate Balance Across Experimental Treatments

	Panel A: "Your Pain"					
	Non-victim ($N = 216$)		Victim ($N = 220$)		Balance Statistics	
	Mean^{C}	SD^{C}	Mean^{T}	SD^{T}	ASMD	KS
Observed Victimhood						
My Pain (household with 1+ survivors)	0.468	0.499	0.491	0.500	0.047	0.023
Direct Victim (survivor)	0.310	0.463	0.314	0.464	0.007	0.003
Indirect Victim (family member)	0.157	0.364	0.177	0.382	0.053	0.020
Household-Level Covariates						
Female Household Head	0.384	0.486	0.400	0.490	0.032	0.016
ln Wage Income (in million VND)	4.533	1.824	4.857	1.552	0.192	0.097
ln House Size (in m^2)	4.525	0.498	4.531	0.498	0.013	0.031
Family Size	3.611	1.675	4.114	1.878	0.282	0.118
Child Family Member	0.426	0.494	0.527	0.499	0.204	0.101
Elderly Family Member	0.630	0.483	0.700	0.458	0.149	0.070
Family Member Military Service	0.426	0.494	0.386	0.487	0.081	0.040
Family Member Party Membership	0.292	0.455	0.295	0.456	0.008	0.004
Respondent-Level Covariates						
Age	59.181	13.813	60.586	14.173	0.100	0.072
Female	0.458	0.498	0.464	0.499	0.011	0.005
Years of Education	9.579	3.864	9.632	4.427	0.013	0.086
College Education	0.176	0.381	0.218	0.413	0.106	0.042
Military Service	0.370	0.483	0.345	0.476	0.052	0.025
Party Membership	0.236	0.425	0.255	0.436	0.043	0.018
Retired	0.412	0.492	0.400	0.490	0.025	0.012
Unable to Work	0.074	0.262	0.114	0.317	0.136	0.040
Religious Belief	0.074	0.262	0.077	0.267	0.012	0.003
Birthplace Đà Nẵng	0.537	0.499	0.509	0.500	0.056	0.028
***F*-Test for Joint Orthogonality**						
My Pain and covariates	Randomization inference p-value = 0.160					
Direct victim, indirect victim, and covariates	Randomization inference p-value = 0.192					
	Panel B: Game Timing					
	Beginning ($N = 206$)		End ($N = 230$)		Balance Statistics	
	Mean^{C}	SD^{C}	Mean^{T}	SD^{T}	ASMD	KS
Observed Victimhood						
My Pain (household with 1+ survivors)	0.461	0.498	0.496	0.500	0.069	0.034
Direct Victim (survivor)	0.296	0.457	0.326	0.469	0.065	0.030
Indirect Victim (family member)	0.165	0.371	0.170	0.375	0.012	0.005
Household-Level Covariates						
Female Household Head	0.417	0.493	0.370	0.483	0.098	0.048
ln Wage Income (in million VND)	4.746	1.604	4.652	1.781	0.055	0.045
ln House Size (in m^2)	4.522	0.553	4.533	0.443	0.021	0.065
Family Size	3.874	1.846	3.857	1.754	0.010	0.034
Child Family Member	0.510	0.500	0.448	0.497	0.124	0.062
Elderly Family Member	0.675	0.468	0.657	0.475	0.039	0.018
Family Member Military Service	0.413	0.492	0.400	0.490	0.026	0.013
Family Member Party Membership	0.257	0.437	0.326	0.469	0.152	0.069
Respondent-Level Covariates						
Age	59.903	14.636	59.878	13.431	0.002	0.062
Female	0.476	0.499	0.448	0.497	0.056	0.028
Years of Education	9.733	4.362	9.491	3.962	0.058	0.098
College Education	0.228	0.420	0.170	0.375	0.147	0.059
Military Service	0.369	0.483	0.348	0.476	0.044	0.021
Party Membership	0.214	0.410	0.274	0.446	0.141	0.060
Retired	0.383	0.486	0.426	0.495	0.087	0.043
Unable to Work	0.112	0.315	0.078	0.269	0.114	0.033
Religious Belief	0.068	0.252	0.083	0.275	0.056	0.015
Birthplace Đà Nẵng	0.549	0.498	0.500	0.500	0.097	0.049
***F*-Test for Joint Orthogonality**						
My Pain and covariates	Randomization inference p-value = 0.490					
Direct victim, indirect victim, and covariates	Randomization inference p-value = 0.519					

Note: SD = Standard Deviation; ASMD = Absolute Standardized Mean Difference; ASMD = $\frac{|\bar{X}_T - \bar{X}_C|}{\sqrt{(s_T^2(X)+s_C^2(X))/2}}$ for continuous variables, and $\frac{|\bar{X}_T - \bar{X}_C|}{\sqrt{(\bar{X}_T(1-\bar{X}_T)+\bar{X}_C(1-\bar{X}_C))/2}}$ for dichotomous variables, where $\bar{X}_T$ and $\bar{X}_C$ are, respectively, subsample mean in the treatment group and the control group, and $s_T^2(X)$ and $s_C^2(X)$ are subsample variance; KS = Kolmogorov-Smirnov statistics. See footnote 14 for the details of the omnibus F-tests of joint orthogonality.

treatment, with an ASMD of 0.282 and a KS statistic of 0.118. Evaluating overall balance, however, omnibus F-tests of joint orthogonality fail to detect meaningful imbalance across the treatment conditions, with randomization inference p-values greater than 0.10.[14]

5 Benchmark Estimates

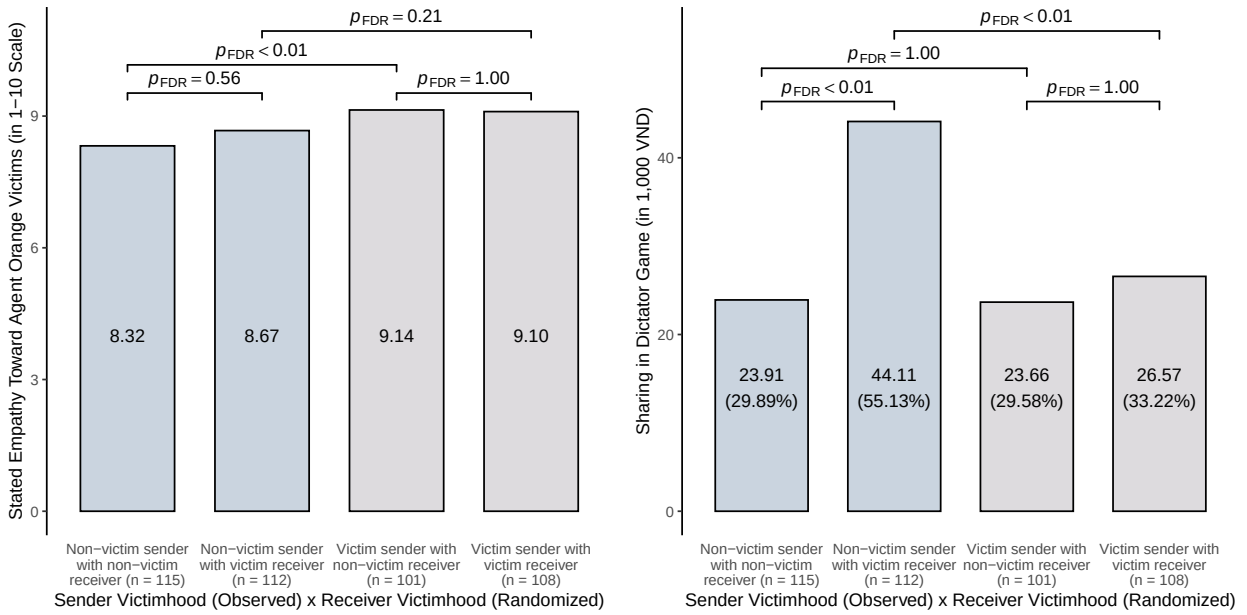
We report the results in several steps. We first report the naive differences in the attitudinal and behavioral outcomes across observed and experimental conditions, followed by regression estimates. We then test for effect heterogeneity across remaining covariates with a causal machine learning approach. Following sections report regression estimates with disaggregated respondent-level victimhood and latent topics in the open-ended responses.

5.1 Empirical First Cut

Figure 2 displays the initial findings, lending support for the predictions of the model with parameter values $\alpha_{\mathcal{P}1} < \overline{\sigma} - \underline{\sigma}$ (divergent effects).[15] First, regarding "my pain," victim respondents on average show higher empathy toward herbicide victims (right two bars in Panel (a)) than non-victim respondents (left two bars), yielding a statistically significant difference-in-means in the absence of the "your pain" treatment. As shown in Figure D.1, the positive association holds when simply comparing victim respondents with non-victims. Second, regarding "your pain," there is little difference in stated empathy across the treatment conditions. By contrast, turning to Panel (b), the average sharing in the Dictator Game remains similar across subgroups, excepting for non-victims with the "your pain"

[14] We follow Kerwin et al. (2024) in reporting randomization inference p-values for the omnibus F-tests of joint orthogonality. Specifically, we first re-randomize the treatment 10,000 times to generated placebo assignments, and then obtain joint orthogonality F-statistics from OLS models regressing the placebo treatment on the covariates and victimization indicator(s). The resultant p-value reflects the ratio of the placebo assignments yielding F-statistics as large or larger than the observed estimate. This approach also allows us to account for design-based uncertainty arising from the randomization process rather than sampling-based uncertainty (Abadie et al., 2020). Table C.2 reports balance statistics for observed victimhood indicators.

[15] As in Corollary 2, with $\alpha_{\mathcal{P}1} < \overline{\sigma} - \underline{\sigma}$, the model predicts the behavioral effect of "your pain" conditional on past victimhood to deviate from the attitudinal tendencies, such that (1) the treatment effect is greater among non-victims (2) while victims exhibit greater empathy. Figure D.1 presents additional naive comparisons.



(a) Stated Empathy (b) Dictator Game Sharing

Figure 2: Stated Empathy Toward Agent Orange Victims and Dictator Game Sharing

Note: (a) Subgroup average of stated empathy and (b) Dictator Game sharing. Left (right) two bars in each panel display the average of non-victim (victim) respondents, with and without the "your pain" treatment. p_{FDR} denotes the false discovery rate corrected p-value for the corresponding two-sample t-test.

treatment.[16] These patterns suggest noticeable behavioral effect of the "your pain" treatment and its heterogeneity across past victimhood, with little attitudinal effect.

Table 2 reports the regression estimates for the attitudinal and behavioral outcomes, with and without covariate adjustments and the interaction term. Models (1) and (2) include week fixed effects along with observed victimhood indicator and the two randomized treatments, with and without the interaction term between "my pain" and "your pain." Models (3) and (4) also adjust for household-level covariates, and Models (5) and (6) further control for respondent-level covariates. We report robust standard errors in the following and randomization inference estimates in Appendix E, yielding similar conclusions.

As reported in Panel A, victim respondents are more empathetic toward other victims. However, the positive association becomes less pronounced with covariate adjustments in

[16]Somewhat unexpectedly given the literature, the results reveal little difference in Dictator Game sharing between victims and non-victims in the absence of the "your pain" treatment. While the endogenous nature of observed victimhood limits causal interpretation, this null finding may reflect the widespread exposure to wartime violence beyond Agent Orange (e.g., bombing) in the Vietnamese context.

Table 2: Agent Orange Exposure, Stated Empathy, and Dictator Game Sharing

	Panel A: Stated Empathy (in 1–10 Scale)					
	(1)	(2)	(3)	(4)	(5)	(6)
γ: My Pain	0.462***	0.645***	0.165	0.320	0.272	0.392
	(0.166)	(0.233)	(0.180)	(0.244)	(0.183)	(0.244)
τ: Your Pain	0.137	0.314	0.229	0.379	0.203	0.320
	(0.153)	(0.244)	(0.155)	(0.243)	(0.154)	(0.243)
η: Game Timing	−0.026	−0.018	0.016	0.022	0.065	0.070
	(0.152)	(0.152)	(0.149)	(0.149)	(0.150)	(0.150)
δ: My Pain × Your Pain		−0.367		−0.310		−0.243
		(0.295)		(0.294)		(0.298)
Average outcome	8.794	8.794	8.794	8.794	8.794	8.794
Adjusted R^2	0.050	0.051	0.106	0.106	0.135	0.135
	Panel B: Dictator Game Sharing (in 1,000 VND)					
γ: My Pain	−4.067	3.926	−11.179***	−1.832	−9.576**	0.063
	(3.709)	(4.726)	(3.903)	(5.053)	(4.006)	(5.048)
τ: Your Pain	11.854***	19.614***	13.398***	22.454***	13.375***	22.778***
	(3.310)	(4.635)	(3.287)	(4.502)	(3.335)	(4.520)
η: Game Timing	0.652	1.011	1.024	1.424	1.680	2.068
	(3.274)	(3.279)	(3.222)	(3.207)	(3.248)	(3.234)
δ: My Pain × Your Pain		−16.087**		−18.741***		−19.437***
		(6.539)		(6.436)		(6.461)
Average outcome	29.702	29.702	29.702	29.702	29.702	29.702
Adjusted R^2	0.060	0.071	0.118	0.133	0.135	0.152
Observations	436	436	436	436	436	436
Week FE	✓	✓	✓	✓	✓	✓
Household-level covariates			✓	✓	✓	✓
Respondent-level covariates					✓	✓

Note: $^{*}p < 0.1$; $^{**}p < 0.05$; $^{***}p < 0.01$. Robust standard errors in parentheses. Household-level covariates: Female household head, ln income, ln house size, family size, child family member, elderly family member, family member party membership, family member military service. Respondent-level covariates: Age, female, years of education, college education, party membership, military service, retired, unable to work, religious belief, birthplace Đà Nẵng.

Models (3) to (6). Nonetheless, the estimates with disaggregated victimhood in the next section suggest that the unclear results mainly arise from indirect victims being less empathetic, in addition to potential confounding bias due to the underlying heterogeneity between victims and non-victims. In contrast, the coefficients on the randomized treatments remain indistinguishable from zero, suggesting little treatment effects of "your pain" and Dictator Game timing. The null effects align with the findings of Shelef and VanderWilden (2025), and might reflect the limited role of short-term primes in shaping people's attitudes.

Turning to Panel B, the estimates indicate a positive treatment effect of "your pain" and reveal its heterogeneity across past victimhood. Across all model specifications, the

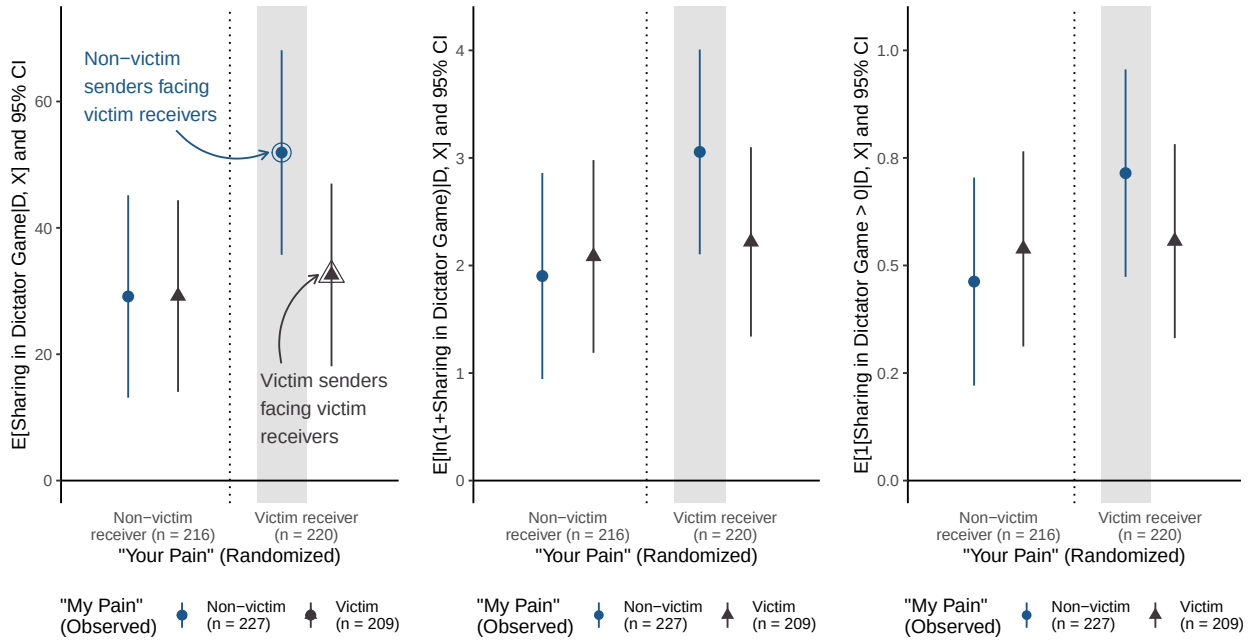
coefficient on "your pain" is consistently signed positive, while the interaction term between "my pain" and "your pain" or difference-in-differences is signed negative. Meanwhile, the game timing fails to retain statistical significance across models, revealing little order effects.

Figure 3 graphically summarizes the difference-in-differences using conditional expectations, along with the estimates for logged and binary versions of the outcome variable. As shown in Figure 3(a), the estimates of Model 6 translate into, among survivors and their family members, the average sharing remains 29.21 out of 80 thousand VND to a non-victim receiver and 32.55 to a victim receiver, yielding an insignificant difference of 3.34 (95% CI: $-5.95, 12.63$). In contrast, among non-victims, the difference in sharing significantly increases to 22.78 (95% CI: $13.92, 31.64$), indicating heterogeneous responses to the randomized receiver condition. As shown in Figures 3(b) and 3(c), the pattern remains virtually unchanged with alternative outcome transformations: log-transformed sharing amount, $\ln(1 + \text{DG Sharing})$, and a binary indicator for any positive sharing, $\mathbb{1}[\text{DG Sharing} > 0]$. As reported in Table D.1, the results also remain robust with the household-level number of Agent Orange victims replacing "my pain" to account for potential nonlinearity.

One might question whether the priming affects stated attitudes among respondents who offer greater (or lesser) sharing in the Dictator Game, due to cognitive consistency. However, as reported in Table D.2, the average controlled direct effect (ACDE), which isolates the causal effect of the treatment while holding the mediator (Dictator Game sharing) constant, is almost identical to the ATE, with $\text{ATE} - \text{ACDE} = 0.024$ (95% CI: $-0.398, 0.446$).[17] The negligible ATE-ACDE difference suggests that the behavioral choice plays a minor mediating role linking the "your pain" treatment and stated empathy.

Overall, the estimates reveal contrasting associations for past victimization and receiver victimhood priming, uncovering two attitudinal-behavioral inconsistencies. First, while past victimization is positively associated with stated empathy toward victims, this increased

[17] The ATE-ACDE difference is based on τ in Model (5) of Table 2. We obtain the ACDE estimate using the sequential g-estimator with the corresponding model specification. The ATE-ACDE difference serves as a summary of how a mediator operates in the underlying causal mechanism, as the ACDE reflects the direct effect of the treatment after "demediating" the indirect effect through the mediator (Acharya et al., 2016).



(a) Dictator Game Sharing (b) $\ln(1 + \text{DG Sharing})$ (c) $\mathbb{1}[\text{DG Sharing} > 0]$

Figure 3: "Your Pain" Priming and Dictator Game Sharing

Note: (a) Symbols and vertical segments represent the point estimates and the corresponding 95% confidence intervals based on Model (6) of Table 2. Table D.3 reports the regression estimates for Panels (b) and (c). Continuous (dichotomous) variables are held at mean (mode) values.

empathy is not coupled with increases sharing in the Dictator Game. Second, receiver victimhood priming is positively associated with Dictator Game sharing among non-victims, but not among victims. However, the results provide little evidence that the "your pain" treatment affects stated empathy, regardless of respondents' past victimization experiences. Unlike past victimization, the "your pain" treatment shapes the behavioral choices of non-victims without altering the attitudes of either non-victims or victims toward victims.

5.2 Causal Forest and Effect Heterogeneity

The estimates above implicitly assumes away potential interactions between the "your pain" treatment and household- and individual-level attributes other than past victimhood. We rely on the causal forest approach to uncover *not* pre-specified, potential sources of effect heterogeneity while mitigating the concerns of multiple-testing, data snooping, and p-hacking.

Table 3: Best Linear Projection of the Heterogeneous Treatment Effect Function

	HTE Function $\hat{\tau}(\cdot)$, with Treatment Propensities Are:			
	Assumed to Be 0.5		Estimated (R-Learner)	
	(1)	(2)	(3)	(4)
Average Treatment Effect	11.365***	11.365***	11.400***	11.400***
	(3.175)	(3.258)	(3.200)	(3.284)
My Pain	−8.833***	−10.211**	−8.731***	−10.064**
	(3.176)	(4.155)	(3.201)	(4.127)
	[−17.660]	[−20.415]	[−17.457]	[−20.123]
Birthplace Đà Nẵng		7.294**		7.545**
		(3.681)		(3.699)
		[14.587]		[15.090]
Sequential cross-fold validation (H_0: no effect heterogeneity)	$p_{\text{SCV}} = 0.001$		$p_{\text{SCV}} = 0.002$	
Observations	436	436	436	436
RHS variables are standardized	✓	✓	✓	✓
Covariates and Week FE		✓		✓

Note: $^{*}p < 0.1$; $^{**}p < 0.05$; $^{***}p < 0.01$. Robust standard errors in parentheses. Right-hand-side (RHS) variables are standardized. Rescaled coefficients on the original scale are in square brackets, obtained by multiplying the coefficients by 1/standard deviation. Covariates not significantly associated with $\hat{\tau}(\cdot)$ are omitted for brevity. p_{SCV} reports the p-values for the null of no effect heterogeneity derived from the sequential cross-fold estimation of rank-average treatment effects (Wager, 2025). See Table 2 for a list of covariates.

Table 3 reports the best linear projection (BLP) of the HTE function $\hat{\tau}(\cdot)$ onto standardized covariates.[18] Models (1) and (3) regress $\hat{\tau}(\cdot)$ on "my pain," whereas Models (2) and (4) include all covariates. Models (1) and (2) assume oracle treatment propensities reflecting the experiment design, whilst Models (3) and (4) estimate propensity scores using regression forests adjusting for covariates (R-learner, Nie and Wager, 2021). The results paint a picture consistent with the regression estimates: "my pain" is significantly and negatively associated with the positive treatment effect of "your pain" on Dictator Game sharing. Moreover, the sequential cross-fold estimation of rank-average treatment effects rejects the null of no effect heterogeneity (Wager, 2025), supporting the empirical claim of heterogeneous effect.

The data-driven approach also alleviates the concern that the reported effect heterogeneity is attributable to other respondent attributes correlated with victimhood, such as age or income, rather than to victimhood itself (see Figure C.1 and Table C.2).[19] Contrary to this

[18]The BLP regresses the HTE function $\hat{\tau}(\cdot)$ onto covariates $\boldsymbol{X}$ with a linear model $\hat{\tau}(\boldsymbol{X}_i) = \alpha + \boldsymbol{X}_i'\boldsymbol{\beta}$ using a doubly-robust estimator (Cui et al., 2023). Coefficients $\boldsymbol{\beta}$ measure the associations between $\hat{\tau}(\cdot)$ and the covariates, and, when the covariates are standardized (mean-zero), intercept α captures the ATE.

[19]The absence of effect heterogeneity across respondent attributes also helps address concerns about the

concern, the BLP estimates reveal no systematic association between the treatment effect and household- or respondent-level covariates, with the sole exception of a positive coefficient on respondents' birthplace. This association is consistent with the notion of "contextual exposure" to traumatic past (Yaylacl and Price, 2023, 4): individuals can be exposed to shared memories or collective victimhood, even without firsthand victimization or family and social connections to victims, by being from a region that suffered political violence. Another possibility is that respondents originally from Đà Nẵng are more likely to be indirectly exposed to Agent Orange via community ties. As an anecdote, in the open-ended question, a migrant respondent remarked, "I have never met or interacted with the victims, so I do not fully understand or have detailed information about them." In either case, the estimates may reflect how societal exposure moderates the behavioral effect of the "your pain" priming.

6 Disaggregated Estimates

To account for personal experiences, Table 4 reports regression estimates with disaggregated victimhood, revealing two noteworthy patterns that align with the model's predictions when the parameters satisfy $\alpha_{\mathcal{P}1} < \overline{\sigma} - \underline{\sigma}$ and $\iota < \frac{\overline{\sigma}-\underline{\sigma}}{\alpha_{\mathcal{P}1}}$ (smaller transmission of attitudes).[20] First, as reported in Panel A, the estimates reveal a clear pattern in the attitudinal outcome: direct victimization is consistently and positively associated with levels of stated empathy. On average, direct victims exhibit 0.548-point higher empathy toward other victims, adjusting for household- and respondent-level covariates (Model 5). In contrast, the coefficients on indirect victimhood remain substantively and statistically insignificant across model specifications, suggesting that increased empathy is persistent within individuals (direct victims),

external validity of the findings, which center on whether the analysis accounts for relevant moderators and whether the sample adequately represents the target population with respect to moderators (Devaux and Egami, 2022; Westreich et al., 2019). The limited moderating role of respondent attributes and the negative association between the treatment effect and past victimhood, suggest that the behavioral effect of the "your pain" priming would likely remain robust in samples with different covariate distributions.

[20] $\iota < \frac{\overline{\sigma}-\underline{\sigma}}{\alpha_{\mathcal{P}1}}$ implies smaller transmission of attitudes such that indirect victims discount the victimization-induced empathy toward victims. Figure D.2 displays the naive differences.

but does not necessarily transmit across individuals.[21] Formally evaluating the suggested difference, the F-test for the equality of the coefficients on the two victimization indicators rejects the null hypothesis of $\gamma_1 = \gamma_2$ at the 5% level. As in the baseline estimates, the coefficients on the two experimental treatments and the interaction terms remain negligible.

Second, turning to the behavioral outcome, Panel B reveals patterns that align with the baseline estimates. Notably, despite differing levels of stated empathy, the results highlight a striking similarity in how direct and indirect victims respond to the manipulated receiver's victimhood status in the Dictator Game. Across model specifications, the coefficient on "your pain" is consistently signed positive, while its interaction terms with the two respondent-level exposure indicators are negatively signed. In contrast, as "my pain" in the baseline results, the main effects of direct and indirect victimhood are negligible both in magnitude and significance once adjusting for interaction terms. Importantly, the F-tests for the equality of the main effects of direct and indirect victimhood ($\gamma_1 = \gamma_2$) and their interactions with "your pain" ($\delta_1 = \delta_2$) fail to reject the null hypotheses, while rejecting the joint nullity ($\delta_1 = \delta_2 = 0$) at the 5% level across model specifications.

As shown in Figure 4, the positive treatment effect of "your pain" is almost offset by its interaction with direct or indirect victimization. On average, direct victims offer 30.83 thousand VND to a non-victim receiver and 34.07 to a victim receiver, yielding a negligible difference of 3.25 (95% CI: $-9.01, 15.50$). Similarly, among indirect victims, the difference in offers remains substantively and statistically insignificant: 3.53 (95% CI: $-10.74, 17.79$). In sharp contrast, among non-victim respondents, the difference in conditional expectations rises to 22.73 (95% CI: 13.87, 31.59), with offers of 29.75 to non-victim receivers and 52.49 to victims. The overall pattern remains consistent across alternative outcome specifications, $\ln(1 + \text{DG Sharing})$ and $\mathbb{1}[\text{DG Sharing} > 0]$ (Panels (b) and (c)).[22]

As in the baseline analysis, the BLP estimates of the HTE function in Table 5 also

[21] Table D.5 reveals similar patterns in social engagement. While direct victimization is positively associated with group membership, the coefficient estimates on indirect victimization remain negligible.

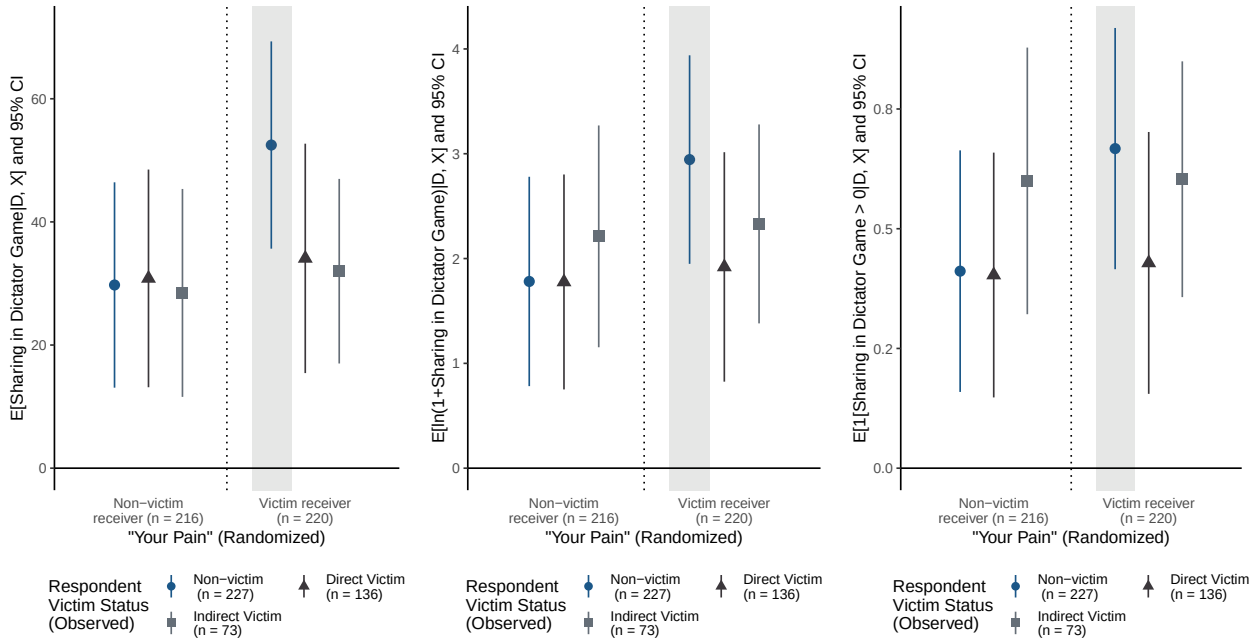
[22] If anything, although remaining marginally significant ($t = 1.734$), Figure 4(c) suggests a weak positive association between indirect victimhood and the likelihood of positive amount sharing in the Dictator Game.

Table 4: Disaggregated Victimhood, Stated Empathy, and Dictator Game Sharing

	Panel A: Stated Empathy (in 1–10 Scale)					
	(1)	(2)	(3)	(4)	(5)	(6)
γ_1: Direct Victim	0.757***	0.944***	0.441**	0.655***	0.548***	0.696***
	(0.155)	(0.211)	(0.182)	(0.229)	(0.187)	(0.232)
γ_2: Indirect Victim	−0.226	−0.087	−0.193	−0.142	−0.078	−0.021
	(0.240)	(0.342)	(0.244)	(0.341)	(0.258)	(0.352)
τ: Your Pain	0.158	0.319	0.217	0.367	0.196	0.309
	(0.151)	(0.243)	(0.154)	(0.244)	(0.153)	(0.245)
η: Game Timing	−0.030	−0.020	0.005	0.022	0.053	0.064
	(0.149)	(0.150)	(0.149)	(0.149)	(0.149)	(0.149)
δ_1: Direct Victim × Your Pain		−0.371		−0.427		−0.303
		(0.291)		(0.301)		(0.308)
δ_2: Indirect Victim × Your Pain		−0.262		−0.072		−0.091
		(0.426)		(0.427)		(0.436)
F-test: $\gamma_1 = \gamma_2$	22.363***	12.082***	7.369***	6.816***	6.071**	4.935**
F-test: $\delta_1 = \delta_2$		0.079		0.772		0.257
F-test: $\delta_1 = \delta_2 = 0$		0.814		1.120		0.507
Average outcome	8.794	8.794	8.794	8.794	8.794	8.794
Adjusted R^2	0.086	0.084	0.117	0.116	0.144	0.142
	Panel B: Dictator Game Sharing (in 1,000 VND)					
γ_1: Direct Victim	−0.851	6.208	−9.333*	0.017	−8.418*	1.072
	(4.191)	(5.586)	(4.787)	(6.039)	(4.903)	(6.039)
γ_2: Indirect Victim	−11.580**	−2.661	−13.577***	−4.311	−11.043**	−1.287
	(4.667)	(6.095)	(4.721)	(6.339)	(4.940)	(6.403)
τ: Your Pain	12.077***	19.654***	13.316***	22.359***	13.346***	22.732***
	(3.308)	(4.631)	(3.290)	(4.499)	(3.339)	(4.520)
η: Game Timing	0.609	0.882	0.951	1.367	1.627	2.030
	(3.267)	(3.293)	(3.225)	(3.227)	(3.255)	(3.259)
δ_1: Direct Victim × Your Pain		−14.672*		−18.872**		−19.483**
		(7.830)		(7.618)		(7.666)
δ_2: Indirect Victim × Your Pain		−17.718**		−18.367**		−19.205**
		(8.094)		(8.354)		(8.504)
F-test: $\gamma_1 = \gamma_2$	4.740**	1.683	0.605	0.373	0.210	0.108
F-test: $\delta_1 = \delta_2$		0.106		0.003		0.001
F-test: $\delta_1 = \delta_2 = 0$		3.186**		4.238**		4.509**
Average outcome	29.702	29.702	29.702	29.702	29.702	29.702
Adjusted R^2	0.067	0.076	0.117	0.130	0.133	0.148
Observations	436	436	436	436	436	436
Week FE	✓	✓	✓	✓	✓	✓
Household-level covariates			✓	✓	✓	✓
Respondent-level covariates					✓	✓

Note: *$p < 0.1$; **$p < 0.05$; ***$p < 0.01$. Robust standard errors in parentheses. See note in Table 2 for a full list of covariates.

support the theoretical predictions. The treatment effect of "your pain" is significantly and negatively associated with the two respondent-level victimization indicators, suggesting a negligible treatment effect among both direct and indirect victims. Likewise, the sequential



(a) Dictator Game Sharing (b) $\ln(1 + \text{DG Sharing})$ (c) $\mathbb{1}[\text{DG Sharing} > 0]$

Figure 4: "Your Pain" Priming and Dictator Game Sharing, Respondent-Level Victimhood

Note: (a) Symbols and vertical segments represent the point estimates and the corresponding 95% confidence intervals based on Model (6) of Table 4. Table D.4 reports the full OLS estimates for Panels (b) and (c). Continuous (dichotomous) variables are held at mean (mode) values.

cross-fold estimation rejects the null of no effect heterogeneity. For other observed covariates including respondent age and household income, the associations remain substantively and statistically indistinguishable from zero, with the exception of birthplace.[23]

Overall, two attitude-behavior inconsistencies are more pronounced than in the baseline analysis. First, direct and indirect victims differ in their attitudes: while direct victims express greater empathy, indirect victims are no more empathetic than non-victims. Yet this greater empathy does not translate into generous offers in the Dictator Game. Second, both direct and indirect victims remain insusceptible to the "your pain" priming, while non-victims' choices in the Dictator Game were swayed depending on the receiver victimhood. At the same time, "your pain" has little effect on stated empathy regardless of respondents' victimhood. Combined, direct victimization is positively associated with attitudinal change,

[23]The absence of significant associations suggests that respondent age, which varies across first- and post-war generation direct victims, plays only a minor role in shaping the treatment effect.

Table 5: Best Linear Projection of the HTE Function, Disaggregated Victimhood

	HTE Function $\hat{\tau}(\cdot)$, with Treatment Propensities Are:			
	Assumed to Be 0.5		Estimated (R-Learner)	
	(1)	(2)	(3)	(4)
Average Treatment Effect	11.315***	11.315***	11.460***	11.460***
	(3.193)	(3.279)	(3.214)	(3.300)
Direct Victim	−7.035**	−9.329*	−6.801*	−8.922*
	(3.523)	(4.887)	(3.544)	(4.859)
	[−15.169]	[−20.114]	[−14.664]	[−19.236]
Indirect Victim	−8.389***	−7.935**	−8.362***	−8.061**
	(2.904)	(3.595)	(2.922)	(3.605)
	[−22.444]	[−21.229]	[−22.370]	[−21.567]
Birthplace Đà Nẵng		7.337**		7.526**
		(3.705)		(3.725)
		[14.672]		[15.050]
Sequential cross-fold validation (H_0: no effect heterogeneity)	$p_{\text{SCV}} = 0.007$		$p_{\text{SCV}} = 0.029$	
Observations	436	436	436	436
Covariates are standardized	✓	✓	✓	✓
Covariates and Week FE		✓		✓

Note: $^{*}p < 0.1$; $^{**}p < 0.05$; $^{***}p < 0.01$. Robust standard errors in parentheses. Rescaled coefficients on the original scale are in square brackets, obtained by multiplying the coefficients by 1/standard deviation. Covariates not significantly associated with $\hat{\tau}(\cdot)$ are omitted for brevity. See notes in Table 2 for a list of covariates and Table 3 for details.

but not with behavioral change; and the "your pain" priming leads to behavioral change among non-victims without inducing attitudinal change among either non-victims or victims.

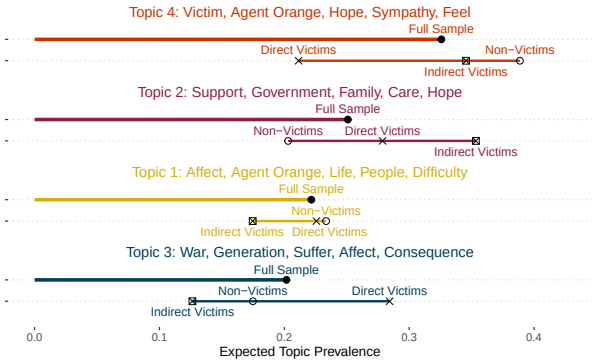
7 Latent Topic Estimates

Crucial to our formal model are social norms supporting Agent Orange victims and their deservingness to receive help, and intrinsic empathy toward victims. To explore, albeit indirectly, the validity of the model, we analyze the latent topics in the open-ended responses and their associations with respondent attributes using the structural topic model (STM).[24]

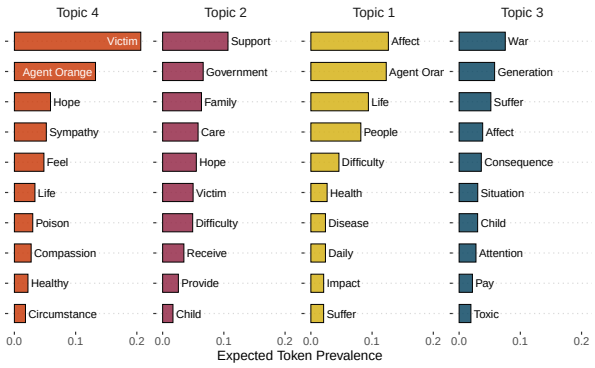
Figure 5 display the discovered topics along with representative tokens and responses.[25]

[24]The Vietnamese texts were translated into English by a research assistant unaware of the experiment design and the formal model, using machine-translated texts via the Google Translation API as the baseline. Appendix D.7 replicates the estimates with the machine-translated texts, yielding similar results.

[25]We estimate the STM with $K = 4$ topics and the right-hand-side variables in Equation 2 as the prevalence covariates, using the spectral initialization. K is chosen to strike the balance between semantic coherence and exclusivity along with topic interpretability (Roberts et al., 2014, 1070), based on the estimates with $K = 3$ to 10, 15, and 20. Figures D.3 and D.4 display naive token co-occurrence networks.



(a) Topic Prevalence



(b) Topic-Token Prevalence

Topic 4: Moral Sentiment

NV: I hope they are healthy.
NV: Compassion for the victims, hoping they will be better every day.
NV: I wish for the victims to become stronger and healthier day by day.
NV: Not discriminating, respecting the victims.
NV: Very sympathetic and loving towards the victims of Agent Orange.
IV: Empathy for the victims. Hope they get better day by day.
NV: Due to limited information and opportunities to interact with victims of Agent Orange poisoning, it is difficult to fully assess the level of concern and worry for them.
NV: I hope they have a better life.
NV: Expressing a great deal of sympathy for the victims of Agent Orange.
NV: Hope the victim become healthier day by day.
NV: There are few opportunities to have direct contact with victims of Agent Orange poisoning. Only through watching on TV.

Topic 2: Societal Support

IV: Desire to be supported and provided with assistance fees to care for the victims.
NV: The government should create favorable conditions for victims to receive proper care and adequate medical treatment.
NV: Hope that the higher authorities will provide assistance and additional financial support for victims and disabled veterans in difficult circumstances.
IV: Our family thanks the neighborhood association for caring, encouraging, and gifting the child during holidays and Tet.
IV: Can't send the child to school, hope to have a place to take care of the child, and support with financial support to take care of the child.
IV: Our family is grateful for the care and support from the Party and our neighbors.
NV: Hope the government can provide additional living expenses are provided for those facing difficult circumstances.
NV: I hope victims receive support, allowances enough for living expenses and medical treatment.

Topic 1: Victim Suffering

NV: People who died from Agent Orange had very difficult lives.
DV: People affected by Agent Orange have long−term effects on their lives.
NV: People affected by Agent Orange suffer a great impact on their lives.
NV: People affected by Agent Orange have their bodies and lives impacted for a lifetime.
NV: People exposed to Agent Orange affect health and everyday life.
NV: Those affected by the toxic agent Agent Orange have a significant impact on their health.
NV: Those affected by Agent Orange need the help of society to improve their lives.
NV: The person exposed to Agent Orange suffers hardships in life.
NV: Agent Orange has a significant impact on the mental and daily life of those who are exposed to it.
NV: Because Agent Orange makes it difficult.
NV: People affected by Agent Orange have a very difficult life in both daily life and activities.

Topic 3: Historical Tragedy

DV: As a child, the pain was intense, but it gradually eased with age. I witnessed how hard it was for the parents to raise their child−it was truly a struggle.
NV: That is the dreadful consequence of war. It lasts for many generations. Extremely tragic.
DV: Due to the impact caused by the war, so must accept and endure it.
DV: It is something nobody wants, but due to war, it must be endured, affecting many generations and thus deserving great pity and hardship. Society needs to pay even more attention.
NV: There are many cases of infection, and even in the third generation, birth defects still occur. Some people did not participate in the war but lived in contaminated areas, so their descendants still suffer from birth defects. Very pitiful.
DV: As a fortunate person, the second generation is not affected. Very sympathetic to those suffering from the aftermath of toxins passed down through multiple generations.

(c) Representative Responses

Figure 5: Topics in the Open-Ended Survey Responses

Note: (a) Solid dots (hollow symbols) indicate full sample (subsample) prevalence. Text labels display the five most frequent tokens. (b) Prevalence of the ten most frequent tokens in each topic. (c) Representative responses with high proportions of tokens assigned to each topic. Two-letter labels preceding the texts indicate the respondents' victimhood: DV = Direct Victims; ID = Indirect Victims; NV = Non-Victims.

Reflecting the token prevalence and representative responses, each topic comprises distinct views: Topic 1 describes the physical and psychological consequences of exposure to Agent Orange; Topic 2 reflects expressions of support for victims—capturing social norms for support and their deservingness; and Topics 3 and 4 comprise emotional responses to the suffering and personal stories of victims, but in distinct ways. Topic 4 (upper left, Panel (c)) reflects expressions of sympathy, compassion, and concerns directed toward victims, whereas Topic 3 (lower right) frames the suffering, including their own, as part of a historical and intergenerational tragedy. Notably, these topics discovered by the unsupervised approach broadly align with the core building-blocks of the formal model—empathy, social norms to support victims, and perceived deservingness of victims to receive support.

Table 6: Topic Prevalence, Past Victimization, and Experimental Treatments

	STM-Based Topic Prevalence			
	(1) Topic 4 Moral Sentiment	(2) Topic 2 Societal Support	(3) Topic 1 Victim Suffering	(4) Topic 3 Historical Tragedy
γ_1: Direct Victim	-0.107^{**}	-0.078	0.007	0.181^{***}
	(0.052)	(0.054)	(0.045)	(0.045)
γ_2: Indirect Victim	-0.112^{*}	0.095	-0.056	0.075
	(0.060)	(0.066)	(0.050)	(0.049)
τ: Your Pain	-0.077^{*}	0.043	-0.004	0.045
	(0.039)	(0.038)	(0.032)	(0.030)
η: Game Timing	-0.007	0.037	-0.004	-0.025
	(0.028)	(0.029)	(0.023)	(0.024)
δ_1: Direct Victim	0.083	0.001	-0.019	-0.071
× Your Pain	(0.062)	(0.063)	(0.050)	(0.050)
δ_2: Indirect Victim	0.117	-0.017	-0.020	-0.088
× Your Pain	(0.082)	(0.085)	(0.066)	(0.062)
Topic Prevalence	0.326	0.251	0.222	0.202
Observations	427	427	427	427
Covariates and Week FE	✓	✓	✓	✓

Note: $^{*}p < 0.1$; $^{**}p < 0.05$; $^{***}p < 0.01$. Standard errors incorporating the uncertainty of the topic prevalence in parentheses (Roberts et al., 2014). Nine respondents are excluded due to item nonresponse. Topics are ordered by their full-sample prevalence. See note in Table 2 for a list of covariates.

Moving to differences across respondent attributes, Table 6 displays linear regression estimates with the specification of Equation 2. The coefficients reflect the associations between respondent attributes, including the treatments, and the within-text topic proportions.[26] On average, the coefficients on direct victimhood in Models (1) and (4) suggest survivors are less likely express externally-directed, emotional reactions to victimhood (Topic 4), while more likely to discuss suffering and embeddedness in wartime violence (Topic 3). The coefficients on indirect victimhood exhibit a similar pattern, while failing to retain statistical significance at the 5% level. It is also worth noting that direct victimhood, indirect victimhood, and the "your pain" treatment show negative coefficient signs in Model (1) (Topic 4). By contrast, neither direct nor indirect victimhood, nor the "your pain" treatment, are systematically associated with the prevalence of Topics 2 (societal support) and 1 (victim suffering).

Three patterns are particularly suggestive. First, both past victimization and experimental priming may constrain respondents' tendencies to express outward-looking narratives

[26]The STM is a mixed-membership model that allows each response to be represented as a vector of proportions indicating the fraction of tokens associated with each topic. The reported coefficients reflect the associations between respondent attributes and the within-text topic proportions.

(Topic 4), while direct victimhood is positively associated with introspective engagements with historical trauma (Topic 3). These patterns are notable given the previously reported null attitudinal effect of "your pain," suggesting that priming may shape broader attitudinal orientations even while not affecting direct measures of empathy. Second, the pattern of coefficient signs on Topic 3 mirrors those observed for stated empathy in Table 4. This alignment suggests that the attitudinal outcome is anchored more in respondents' historically-embedded experiences of suffering (Topic 3) than in externally-directed moral sentiments (Topic 4). Third, the null results for Topic 2 are also revealing when considered alongside the divergent behavioral effects of "your pain": although both victims and non-victims articulate support for victims, only non-victims translate this sentiment into behavioral change when primed with others' suffering, lending credibility to the theoretical predictions.

8 Robustness and Alternative Explanations

Several robustness concerns remain in the empirical claims. First, the analysis relies on sampling-based uncertainty, rather than design-based uncertainty arising from the randomization process (Abadie et al., 2020). Second, the analysis does not formally test for effect heterogeneity across outcome types. Third, the focus on the interaction between observed victimization and the randomized component invites a concern for misspecification bias (Blackwell and Olson, 2022). Fourth, the findings may be sensitive to the choice of functional forms. Last, the reported treatment effects and associations may be heterogeneous or nonmonotonic along the outcome distributions.

Appendix E addresses these concerns with a series of robustness checks: (i) randomization inference to address design-based uncertainty; (ii) difference-in-difference-in-differences estimates with a triple interaction between observed victimhood, "your pain" treatment, and outcome types; (iii) fully-moderated models adjusting for all possible interactions between the moderator and covariates; (iv) Tobit and probit estimates; and (v) quantile treatment

effect estimates. Reassuringly, the results remain robust to these alternative modes of inference, model specifications, and preprocessing. If anything, as reported in Appendix E.5, the positive associations between "my pain" and direct victimhood, on the one hand, and stated empathy toward victims, on the other, are more pronounced in the lower quantiles.[27]

Another class of concerns arises from two alternative explanations that could account for the reported associations. First, the gap in income between victim and non-victim respondents may explain the heterogeneous behavioral responses to the "your pain" treatment: non-victims are simply richer and thus willing to share more with victim receivers in a Dictator Game. Yet this explanation is at odds with the causal forest estimates in Tables 3 and 5, which show little evidence of effect heterogeneity across household income. As reported in Table E.3, despite the imbalance in household income in Table C.2, the results also remain robust in the fully moderated models, indicating little sign of misspecification bias.

Second, victimization may be less salient among survivors and their family members, which could explain the interaction effect between the "your pain" treatment and past victimhood (see also, Bauer et al., 2018, 28). However, the topic model estimates suggest the opposite holds at least for survivors, such that survivors are *more* likely to talk about victimization (Topic 3, Model (4) in Table 6). Regarding externally-oriented emotional reactions (Topic 4), Model (1) in Table 6 also suggests that a negative effect of the "your pain" treatment and little interaction with past victimhood, as opposed to its behavioral effects.

9 Conclusion

This article has explored the attitudinal and behavioral legacies of herbicidal warfare during the Vietnam War in contemporary Vietnam, with a formal model and a lab-in-the-field experiment. The empirical findings are twofold. First, consistent with the literature, we

[27]Direct victimhood is associated with a 0.284-point (insignificant) increase in the median of the stated empathy distribution (95% CI: $-0.217, 0.785$), whilst the coefficient estimate increases to 1.850 (95% CI: $0.603, 3.110$) at the 10th percentile of the outcome distribution. The positive association almost disappears at the 90th percentile of the distribution with the coefficient of 0.040 (95% CI: $-0.018, 0.099$; Figure E.6). Figure E.7 reports the quantile treatment effect estimates for the experimental treatments.

find that historical victimization is positively associated with empathy toward other Agent Orange victims, but only among direct victims (survivors), not indirect victims (family members). However, this heightened empathy does not translate into generosity in a Dictator Game. Second, and in contrast to existing assumptions about victimization-induced altruism, non-victims respond to experimental priming of the receiver's victimhood with increased sharing; and victims, despite expressing greater empathy, do not adjust their behavior based on others' victimhood. The field evidence of the divergence between the elevated empathy of victims and their insusceptibility to the "your pain" priming is consistent with the theoretical predictions when the gap between norms about how much non-victims should give and how much victims should accept outweighs the additional empathy among victims.

These findings speak to the broader literature on the legacies of political violence and attitude-behavior inconsistencies. Empirically, direct victims exhibit elevated empathy toward other victims but remain largely unresponsive to the "your pain" priming, underscoring the importance of distinguishing between attitudinal and behavioral responses when examining the long-term consequences of violence. Theoretically, the formal model offers a unified framework that accounts for both convergence and divergence between attitudinal dispositions and behavioral outcomes. By integrating intra-individual persistence and inter-individual transmission channels, the model articulates general mechanisms and generates testable predictions that nest existing insights as special cases, while remaining applicable to a broader range of post-conflict contexts.

This article highlights at least two pathways for future research. First, a natural extension of the present analysis is to examine how individual-level, persistent attitudes and socially transmitted norms jointly shape decision-making in broader settings. For example, while our analysis focuses on a simple Dictator Game involving in-group members or receivers with relatively smaller social distance (i.e., individuals residing in the same wards), extending the theoretical and empirical framework to other behavioral games or to interactions with out-group members may further illuminate the legacies of wartime violence and the under-

lying mechanisms. Second, it is especially important to understand how individual empathy and social norms interact and co-evolve. Whereas the current analysis implicitly assumes that intra-individual persistence and inter-individual transmission operate independently, these forces may in fact interact, reinforcing or offsetting one another. Theoretical and empirical investigations into such interactions offer deeper insights into how past experiences persistently influence subsequent outcomes.

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Online Appendix for "Pain, Attitudes, and (In)Action: Divergent Legacies of Herbicidal Warfare in Vietnam"

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A Research Ethics

This study was conducted in a post-conflict setting and required particular attention to ethical considerations in research involving human subjects. The survey and experiment were designed by the authors, reviewed and approved by the Research Ethics Review Board of Hiroshima University (HR-LPES-002078, September 3, 2024), and implemented in the field by three of the authors in collaboration with local partners at the University of Đà Nẵng and the Ho Chi Minh National Political Academy, Region III, in Đà Nẵng, Vietnam.

We took several measures to prevent any potential harm to participants and deception. Before the survey and experiment, our local partners recommended ten enumerators with prior experience conducting surveys involving sensitive questions. All enumerators were trained to ensure the protection of participants' privacy and psychological comfort. The enumerators informed respondents about the purpose of the study to avoid potential deception or misunderstanding prior to participation. Enumerators also explained that participants could skip any item or withdraw from the study at any time without any penalty.

Survey and experimental tasks took place in respondents' private homes to provide a safe and comfortable environment. Local guides accompanying the enumerators were not allowed to attend the interviews. During each visit, respondents received 80,000 VND, which they could choose to share with another anonymous participant (receiver) in a Dictator Game. Enumerators followed a standardized script, making clear that participants were free to decide how much to share and that all decisions would remain strictly confidential. In the

Dictator Game, respondents (senders) and receivers were randomly and anonymously paired, so no participant knew the identity of their counterpart. No additional monetary incentives were offered beyond the Dictator Game payoff to avoid creating undue pressure to participate in or complete the questionnaire.

Participants were provided with the contact information of the authors and enumerators in case of any concerns or questions. The authors monitored for any adverse effects or complaints during and after data collection, and none were reported. All data were anonymized before being transferred to the authors for analysis.

B Proofs

Proof of Proposition 1 We can immediately derive an interior solution by first-order condition. Because the concavity of the quadratic loss guarantees a unique global maximum, we obtain $m^*(s, r; \theta) \equiv \arg\max_m u(x, \Psi(m))$ by setting $\frac{\partial u(x,\Psi(m))}{\partial m} = 0$ for $m < \psi(s, r; \theta)$. When the parameter ζ is small or large relative to the solution, we have a corner solution 0 or M, respectively. □

Proof of Corollary 1 First, focus on when "my pain" ($s = 1$) makes a respondent more generous compared to when she is a non-victim. By the definition of $\psi(s, r; \theta)$ and Proposition 1, the inequality $m^*(1, r; \theta) \geq m^*(0, r; \theta)$ for $r \in \{0, 1\}$ reduces to

$$\alpha_{\mathcal{P}0} + \alpha_{\mathcal{P}1} r - \underline{\sigma}(1 - r) \geq \overline{\sigma} r.$$

Substituting $r = 1$ and $r = 0$ leads to each of the conditions: $\alpha_{\mathcal{P}0} + \alpha_{\mathcal{P}1} \geq \overline{\sigma}$ for $r = 1$ and $\alpha_{\mathcal{P}0} \geq \underline{\sigma}$ for $r = 0$.

Next, move on to the "your pain" aspect. We focus on $s \in \{0, 1\}$ here (fix $s_d = 1$). Then,

$m^*(s,1;\theta) \geq m^*(s,0;\theta)$ becomes

$$\alpha_{\mathcal{P}1} s_h + \alpha_{\mathcal{T}} + (1-s_h)\overline{\sigma} \geq -s_h \underline{\sigma},$$

which yields the conditions: $\alpha_{\mathcal{P}1} \geq -\alpha_{\mathcal{T}} - \underline{\sigma}$ for $s=1$ and $0 \geq -\alpha_{\mathcal{T}} - \overline{\sigma}$ for $s=0$. □

Proof of Corollary 2 We want to show the condition under which

$$\tau(0) = \mathbb{E}\left[Y_i(1) - Y_i(0) | S_i = 0\right] \leq \tau(1) = \mathbb{E}\left[Y_i(1) - Y_i(0) | S_i = 1\right].$$

By Assumption 1, we can simply "translate" the empirical terms into the equilibrium decision and obtain

$$\mathbb{E}\left[m^*(0,1;\theta) - m^*(0,0;\theta)\right] \leq \mathbb{E}\left[m^*(1,1;\theta) - m^*(1,0;\theta)\right],$$

which simplifies to $\alpha_{\mathcal{P}1} \geq \overline{\sigma} - \underline{\sigma}$. □

Proof of Corollary 3 By Assumption 1, observe that

$$\begin{aligned}
\tau(1) &= \mathbb{E}\left[m^*(1,1;\theta) - m^*(1,0;\theta)\right] = \alpha_{\mathcal{P}1} + \alpha_{\mathcal{T}} + \underline{\sigma} \\
\tau(0) &= \mathbb{E}\left[m^*(0,1;\theta) - m^*(0,0;\theta)\right] = \alpha_{\mathcal{T}} + \overline{\sigma} \quad \text{and} \\
\tau(\mathtt{i}) &= \mathbb{E}\left[m^*(\mathtt{i},1;\theta) - m^*(\mathtt{i},0;\theta)\right] = \alpha_{\mathcal{P}1} \cdot \iota + \alpha_{\mathcal{T}} + \underline{\sigma}.
\end{aligned}$$

Comparing them immediately yields the result. □

C Data Details

C.1 Descriptive Statistics and Pairwise Correlations

Table C.1: Descriptive Statistics

	N	Mean	SD	Min	Max
Randomized Treatments					
"Your Pain" (1 if Victim Receiver in Dictator Game)	436	0.505	0.501	0	1
Dictator Game Timing (1 if after sociodemographic questions)	436	0.528	0.500	0	1
Agent Orange Victimization					
"My Pain" (1 if household with 1+ victims)	436	0.479	0.500	0	1
Direct Victim (Survivor)	436	0.312	0.464	0	1
Indirect Victim (Family Member)	436	0.167	0.374	0	1
Outcomes					
Sharing in Dictator Game	436	29.702	35.013	0	80
Logged Sharing in Dictator Game = ln(1+Dictator Game Sharing)	436	1.984	2.024	0	4.394
Any Sharing in Dictator Game = $\mathbb{1}$[Dictator Game Sharing > 0]	436	0.502	0.501	0	1
Empathy Toward Agent Orange Victims	436	8.794	1.596	2	10
= Simple Average of three ten-point Likert-scale questions:					
(1) Empathy toward Agent Orange victims in their predicament	436	8.794	1.596	2	10
(2) Concern for the well-being of Agent Orange victims	436	8.805	1.402	4	10
(3) Fear for the fate of Agent Orange victims	436	8.911	1.397	1	10
Social Group Membership (1 if any)	436	0.447	0.498	0	1
Social Group Leadership (1 if any)	436	0.126	0.332	0	1
Household Attributes					
Female Household Head	436	0.392	0.489	0	1
ln Wage Income (in million VND)	436	4.696	1.698	0	7.314
ln House Size (in m^2)	436	4.528	0.498	2.303	5.940
Family Size	436	3.865	1.796	1	12
Children Family Member	436	0.477	0.500	0	1
Elderly Family Member	436	0.665	0.472	0	1
Family Member Military Service (1 if anyone)	436	0.406	0.492	0	1
Family Member Party Membership (1 if anyone)	436	0.294	0.456	0	1
Respondent Attributes					
Age	436	59.890	13.997	23	97
Female	436	0.461	0.499	0	1
Years of Education	436	9.606	4.153	0	18
College Education	436	0.197	0.398	0	1
Party Membership	436	0.245	0.431	0	1
Military Service	436	0.358	0.480	0	1
Retired	436	0.406	0.492	0	1
Unable to Work	436	0.094	0.292	0	1
Religious Belief	436	0.076	0.265	0	1
Birthplace Đà Nẵng	436	0.523	0.500	0	1
Survey Week					
Week 36 (September 5–7)	436	0.119	0.324	0	1
Week 37 (September 8–14)	436	0.266	0.442	0	1
Week 38 (September 15–21)	436	0.339	0.474	0	1
Week 39/40 (September 22–30)	436	0.275	0.447	0	1

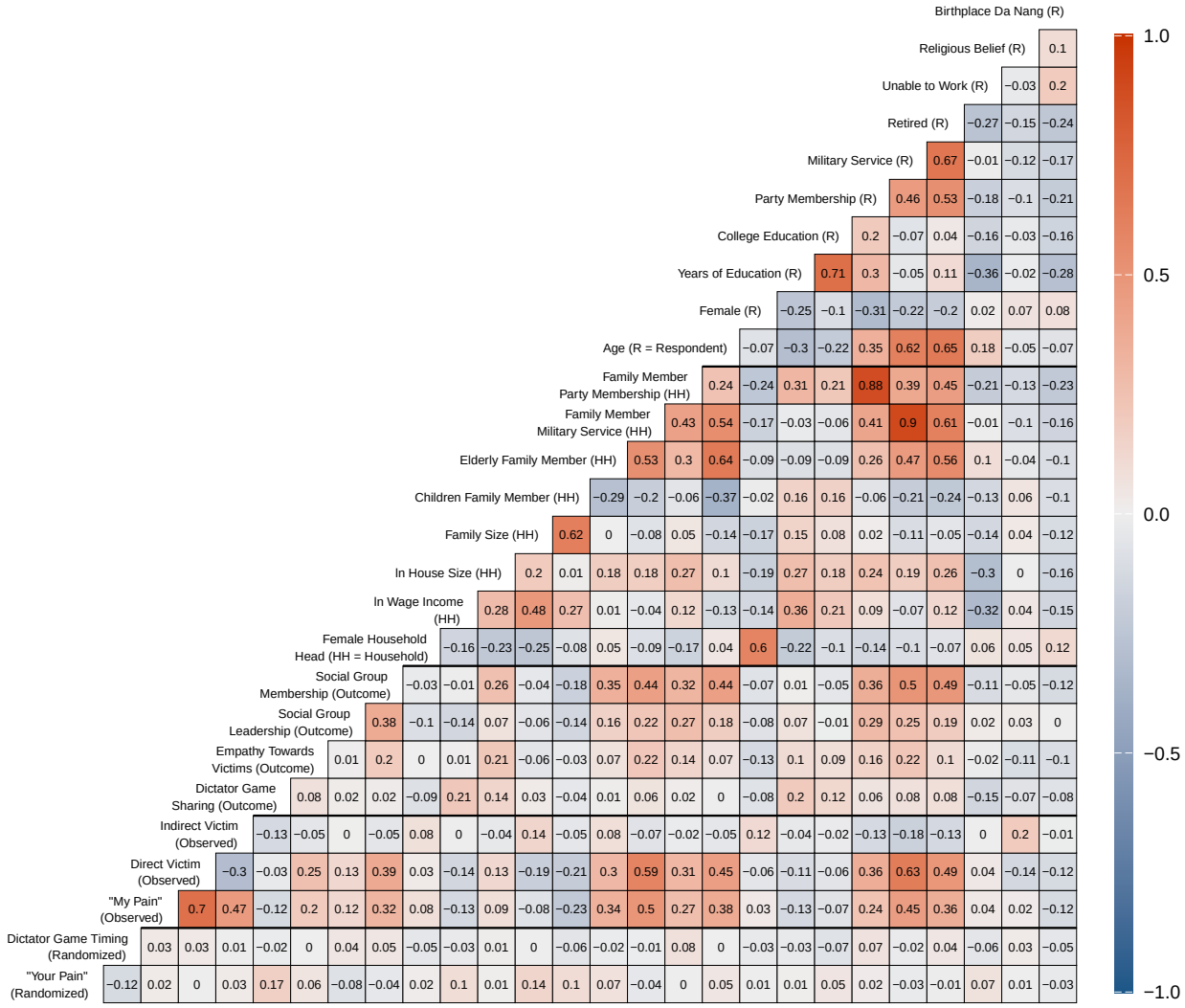


Figure C.1: Correlation Matrix

Note: Shades and number labels in tiles represent pairwise (Peason's) correlation estimates between the row and column variables. Darker shades indicate higher correlation estimates. "H" denotes household-level covariates, and "R" denotes respondent-level covariates.

C.2 Covariate Balance Across Observed Victimization

Table C.2: Covariate Balance Across Victimization Status

	Panel A: "My Pain"					
	Non-victim ($N = 227$)		Victim ($N = 209$)		Balance Statistics	
	Mean^{C}	SD^{C}	Mean^{T}	SD^{T}	ASMD	KS
Household Attributes						
Female Household Head	0.352	0.478	0.435	0.496	0.170	0.083
ln Wage Income	4.915	1.530	4.459	1.838	0.269	0.215
Family Size	3.996	1.606	3.722	1.976	0.152	0.147
Any Children	0.586	0.493	0.359	0.480	0.467	0.227
Any Elderly	0.511	0.500	0.833	0.373	0.729	0.322
ln House Size	4.485	0.513	4.574	0.477	0.180	0.171
Family Member Military Service	0.172	0.377	0.660	0.474	1.141	0.488
Family Member Party Membership	0.176	0.381	0.421	0.494	0.555	0.245
Respondent Attributes						
Age	54.819	12.837	65.397	13.121	0.815	0.435
Female	0.445	0.497	0.478	0.500	0.067	0.034
Years of Education	10.132	4.009	9.033	4.240	0.266	0.125
College Education	0.225	0.417	0.167	0.373	0.144	0.057
Military Service	0.150	0.357	0.584	0.493	1.008	0.434
Party Membership	0.145	0.352	0.354	0.478	0.497	0.209
Retired	0.238	0.426	0.589	0.492	0.762	0.351
Unable to Work	0.084	0.277	0.105	0.307	0.074	0.022
Religious Belief	0.070	0.256	0.081	0.273	0.041	0.011
Birthplace Đà Nẵng	0.581	0.493	0.459	0.498	0.246	0.122
	Panel B: Direct Victim					
	Non-victim ($N = 227$)		Direct Victim ($N = 136$)		Balance Statistics	
	Mean^{C}	SD^{C}	Mean^{T}	SD^{T}	ASMD	KS
Household Attributes						
Female Household Head	0.352	0.478	0.412	0.492	0.122	0.059
ln Wage Income	4.915	1.530	4.338	2.005	0.323	0.211
Family Size	3.996	1.606	3.346	1.839	0.376	0.228
Any Children	0.586	0.493	0.324	0.468	0.546	0.262
Any Elderly	0.511	0.500	0.875	0.331	0.859	0.364
ln House Size	4.485	0.513	4.623	0.473	0.279	0.211
Family Member Military Service	0.172	0.377	0.838	0.368	1.788	0.666
Family Member Party Membership	0.176	0.381	0.500	0.500	0.728	0.324
Respondent Attributes						
Age	54.819	12.837	69.169	11.509	1.177	0.589
Female	0.445	0.497	0.419	0.493	0.052	0.026
Years of Education	10.132	4.009	8.904	4.440	0.290	0.149
College Education	0.225	0.417	0.162	0.368	0.160	0.063
Party Membership	0.145	0.352	0.478	0.500	0.769	0.333
Military Service	0.150	0.357	0.809	0.393	1.755	0.659
Retired	0.238	0.426	0.765	0.424	1.240	0.527
Unable to Work	0.084	0.277	0.110	0.313	0.090	0.027
Religious Belief	0.070	0.256	0.022	0.147	0.232	0.048
Birthplace Đà Nẵng	0.581	0.493	0.434	0.496	0.299	0.148

(*continued*)

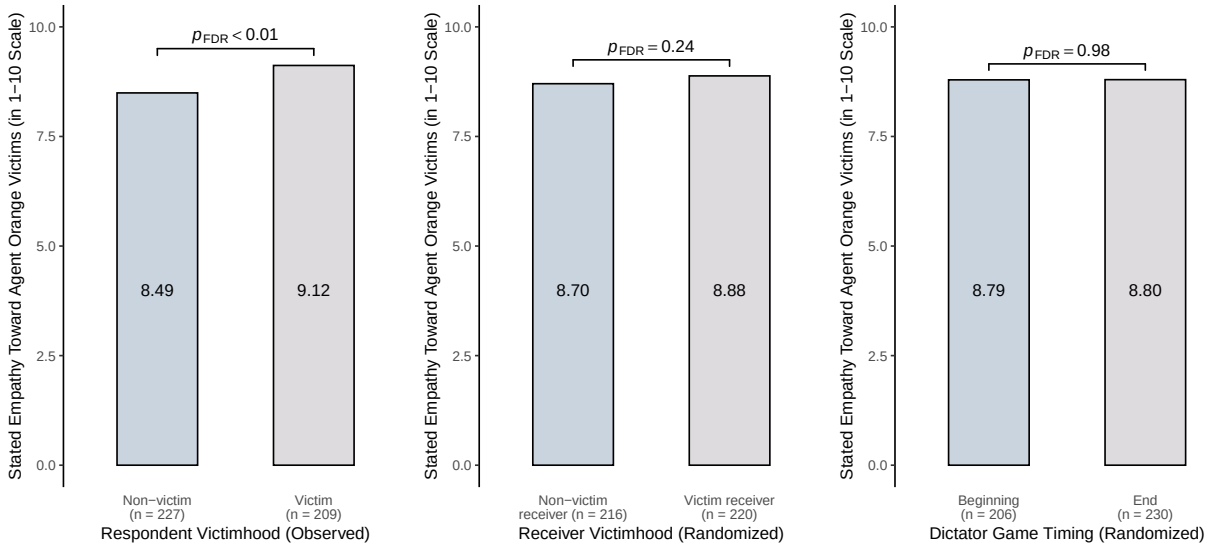
Table C.2 (contd.): Covariate Balance Across Victimization Status

	Panel C: Indirect Victim					
	Non-victim ($N = 227$)		Indirect Victim ($N = 73$)		Balance Statistics	
	Mean^{C}	SD^{C}	Mean^{T}	SD^{T}	ASMD	KS
Household Attributes						
Female Household Head	0.352	0.478	0.479	0.500	0.260	0.127
ln Wage Income	4.915	1.530	4.685	1.464	0.154	0.222
Family Size	3.996	1.606	4.425	2.041	0.234	0.117
Any Children	0.586	0.493	0.425	0.494	0.327	0.161
Any Elderly	0.511	0.500	0.753	0.431	0.519	0.242
ln House Size	4.485	0.513	4.484	0.477	0.001	0.098
Family Member Military Service	0.172	0.377	0.329	0.470	0.368	0.157
Family Member Party Membership	0.176	0.381	0.274	0.446	0.236	0.098
Respondent Attributes						
Age	54.819	12.837	58.370	13.115	0.274	0.162
Female	0.445	0.497	0.589	0.492	0.291	0.144
Years of Education	10.132	4.009	9.274	3.856	0.218	0.143
College Education	0.225	0.417	0.178	0.383	0.116	0.047
Party Membership	0.145	0.352	0.123	0.329	0.065	0.022
Military Service	0.150	0.357	0.164	0.371	0.040	0.015
Retired	0.238	0.426	0.260	0.439	0.052	0.022
Unable to Work	0.084	0.277	0.096	0.294	0.043	0.012
Religious Belief	0.070	0.256	0.192	0.394	0.365	0.121
Birthplace Đà Nẵng	0.581	0.493	0.507	0.500	0.150	0.075

Note: SD = Standard Deviation; ASMD = Absolute Standardized Mean Difference = $\frac{|\bar{X}_T - \bar{X}_C|}{\sqrt{(s_T^2(X)+s_C^2(X))/2}}$ for continuous variables, and $\frac{|\bar{X}_T - \bar{X}_C|}{\sqrt{(\bar{X}_T(1-\bar{X}_T)+\bar{X}_C(1-\bar{X}_C))/2}}$ for dichotomous variables, where $\bar{X}_T$ and $\bar{X}_C$ are, respectively, subsample mean in the treatment group and the control group, and $s_T^2(X)$ and $s_C^2(X)$ are subsample variance; KS = Kolmogorov-Smirnov statistics.

D Additional Results

D.1 Naive Difference Across "My Pain"



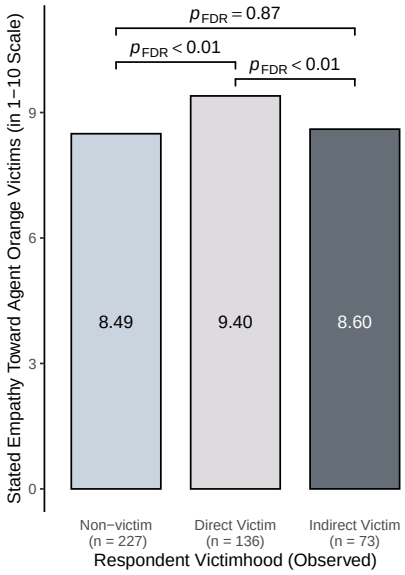
(a) Empathy|"My Pain" (b) Empathy|"Your Pain" (c) Empathy|Game Timing

(d) DG Share|"My Pain" (e) DG Share|"Your Pain" (f) DG Share|Game Timing

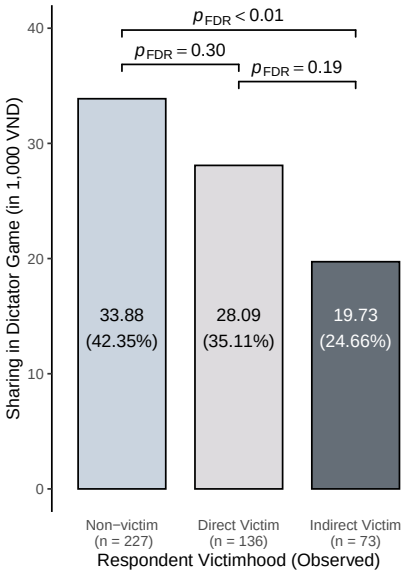
Figure D.1: Naive Differences in Stated Empathy Toward Agent Orange Victims and Dictator Game Sharing Across Past Victimhood and Randomized Treatment Conditions

Note: Bars display subgroup averages of stated empathy ((a)–(c)) and Dictator Game sharing ((d)–(f)). p_{FDR} denotes the false discovery rate (FDR) corrected p-value for the corresponding two-sample t-test.

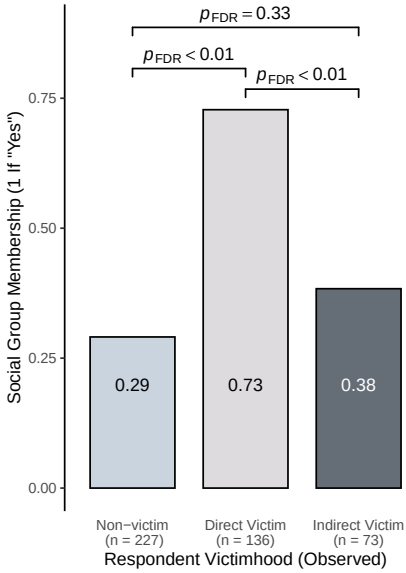
D.2 Naive Difference Across Direct and Indirect Victimization



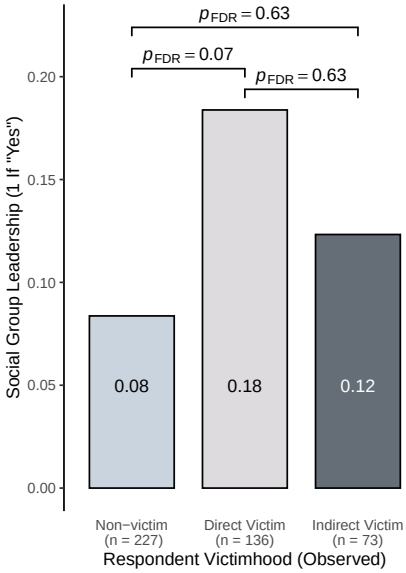
(a) Stated Empathy



(b) Dictator Game Sharing



(c) Social Group Membership



(d) Social Group Leadership

Figure D.2: Naive Differences in Stated Empathy Toward Agent Orange Victims and Dictator Game sharing Across Observed Respondent-Level Agent Orange Exposure

Note: Bars in each panel display subgroup averages of stated empathy, Dictator Game sharing, social group membership, and social group leadership. p_{FDR} denotes the false discovery rate (FDR) corrected p-value for the corresponding two-sample t-test.

D.3 Adjustments for the Number of Victims

Table D.1: Regression Estimates with the Household-Level Number of Agent Orange Victims

	Panel A: Stated Empathy (in 1–10 Scale)					
	(1)	(2)	(3)	(4)	(5)	(6)
Single Victim	0.407**	0.585**	0.133	0.265	0.234	0.313
	(0.174)	(0.248)	(0.187)	(0.260)	(0.188)	(0.255)
Multiple Victim	0.740***	0.896***	0.384*	0.599**	0.521**	0.787**
	(0.188)	(0.227)	(0.207)	(0.251)	(0.243)	(0.317)
Your Pain	0.145	0.314	0.234	0.378	0.209	0.320
	(0.153)	(0.244)	(0.155)	(0.243)	(0.154)	(0.244)
Game Timing	−0.030	−0.021	0.015	0.017	0.063	0.059
	(0.152)	(0.153)	(0.149)	(0.150)	(0.150)	(0.152)
Single Victim × Your Pain		−0.352		−0.267		−0.163
		(0.312)		(0.311)		(0.313)
Multiple Victim × Your Pain		−0.343		−0.477		−0.593
		(0.372)		(0.372)		(0.429)
Average outcome	8.794	8.794	8.794	8.794	8.794	8.794
Adjusted R^2	0.051	0.049	0.105	0.104	0.135	0.134
	Panel B: Dictator Game Sharing (in 1,000 VND)					
Single Victim	−3.218	4.786	−10.147**	−1.569	−8.960**	−0.588
	(3.911)	(5.021)	(4.066)	(5.459)	(4.144)	(5.432)
Multiple Victim	−8.352	0.477	−18.124***	−5.209	−13.711*	1.433
	(6.351)	(8.516)	(6.798)	(8.216)	(7.351)	(8.419)
Your Pain	11.736***	19.599***	13.235***	22.410***	13.281***	22.692***
	(3.319)	(4.637)	(3.293)	(4.505)	(3.350)	(4.522)
Game Timing	0.705	1.004	1.065	1.237	1.723	1.791
	(3.283)	(3.323)	(3.225)	(3.243)	(3.254)	(3.272)
Single Victim × Your Pain		−15.798**		−17.280**		−16.946**
		(6.922)		(6.778)		(6.852)
Multiple Victim × Your Pain		−19.336		−28.527**		−33.305**
		(12.928)		(13.594)		(13.877)
Average outcome	29.702	29.702	29.702	29.702	29.702	29.702
Adjusted R^2	0.059	0.069	0.119	0.135	0.134	0.153
Observations	436	436	436	436	436	436
Week FE	✓	✓	✓	✓	✓	✓
Household-level covariates			✓	✓	✓	✓
Respondent-level covariates					✓	✓

Note: $^*p < 0.1$; $^{**}p < 0.05$; $^{***}p < 0.01$. Robust standard errors in parentheses. Estimates are from OLS models replacing the baseline "my pain" indicator with dummies for single and multiple Agent Orange victims in respondent's household. Of the 209 victim respondents (households), 175 reported one victim, 29 reported two, and 5 reported three, along with 227 non-victim respondents. Due to the small number of observations with three victims, Single Victim and Multiple Victim dummies collapse respondents with two or three victims into a single category, with non-victim respondents as the baseline category. Household-level covariates: Female household head, ln income, ln house size, family size, child family member, elderly family member, family member party membership, family member military service. Respondent-level covariates: Age, female, years of education, college education, party membership, military service, retired, unable to work, religious belief, birthplace Đà Nẵng.

D.4 Average Controlled Direct Effect

Table D.2: Average Controlled Direct Effect (ACDE) Estimates of the "Your Pain" Treatment on Stated Empathy with Dictator Game Sharing as the Mediator, along with the Corresponding ATE Estimates

	Outcome: Stated Empathy (in 1–10 Scale)					
	(1)	(2)	(3)	(4)	(5)	(6)
ACDE (Your Pain)	0.083	0.230	0.193	0.326	0.179	0.285
	(0.151)	(0.239)	(0.152)	(0.239)	(0.150)	(0.237)
ATE (Your Pain, Table 2)	0.137	0.314	0.229	0.379	0.203	0.320
	(0.153)	(0.244)	(0.155)	(0.243)	(0.154)	(0.243)
ATE − ACDE	0.054	0.085	0.035	0.053	0.024	0.035
	(0.215)	(0.341)	(0.218)	(0.341)	(0.215)	(0.340)
Average outcome	8.794	8.794	8.794	8.794	8.794	8.794
Mediator recentered at	80	80	80	80	80	80
Observations	436	436	436	436	436	436
Week FE	✓	✓	✓	✓	✓	✓
Household-level covariates			✓	✓	✓	✓
Respondent-level covariates					✓	✓
My Pain × Your Pain		✓		✓		✓

Note: $^{*}p < 0.1$; $^{**}p < 0.05$; $^{***}p < 0.01$. Robust standard errors in parentheses for the ATE estimates. Standard errors based on the consistent variance estimator of Acharya et al. (2016) in parentheses for the ACDE estimates. ATE = average treatment effect. ACDE = average controlled direct effect. ACDE estimates are obtained using the sequential g-estimator (Acharya et al., 2016). ATE − ACDE denotes the difference between the ATE estimates reported in Panel A of Table 2 in the main text and the reported ACDE estimates. The estimates of Model (5) are discussed in the main text. Household-level covariates: Female household head, ln income, ln house size, family size, child family member, elderly family member, family member party membership, family member military service. Respondent-level covariates: Age, female, years of education, college education, party membership, military service, retired, unable to work, religious belief, birthplace Đà Nẵng.

D.5 Logged and Binary Dictator Game Sharing

Table D.3: Regression Estimates with Logged and Binary Dictator Game Sharing

	Panel A: $\ln(1 + \textbf{Dictator Game Sharing})$					
	(1)	(2)	(3)	(4)	(5)	(6)
γ: My Pain	−0.105	0.311	−0.417*	0.074	−0.323	0.182
	(0.219)	(0.283)	(0.235)	(0.301)	(0.242)	(0.303)
τ: Your Pain	0.637***	1.042***	0.669***	1.144***	0.661***	1.154***
	(0.192)	(0.261)	(0.192)	(0.255)	(0.194)	(0.255)
η: Game Timing	0.126	0.144	0.129	0.150	0.166	0.187
	(0.192)	(0.192)	(0.190)	(0.189)	(0.192)	(0.191)
δ: My Pain × Your Pain		−0.839**		−0.983**		−1.018***
		(0.382)		(0.380)		(0.382)
Average outcome	1.984	1.984	1.984	1.984	1.984	1.984
Adjusted R^2	0.053	0.062	0.097	0.110	0.114	0.128
	Panel B: $\mathbb{1}[\textbf{DG Sharing} > 0]$					
γ: My Pain	−0.007	0.089	−0.062	0.051	−0.040	0.076
	(0.055)	(0.072)	(0.061)	(0.077)	(0.063)	(0.078)
τ: Your Pain	0.141***	0.235***	0.142***	0.251***	0.139***	0.252***
	(0.048)	(0.064)	(0.048)	(0.062)	(0.048)	(0.062)
η: Game Timing	0.048	0.052	0.046	0.051	0.055	0.060
	(0.048)	(0.048)	(0.048)	(0.047)	(0.048)	(0.048)
δ: My Pain × Your Pain		−0.193**		−0.227**		−0.234**
		(0.095)		(0.095)		(0.096)
Average outcome	0.502	0.502	0.502	0.502	0.502	0.502
Adjusted R^2	0.047	0.054	0.083	0.094	0.095	0.106
Observations	436	436	436	436	436	436
Week FE	✓	✓	✓	✓	✓	✓
Household-level covariates			✓	✓	✓	✓
Respondent-level covariates					✓	✓

Note: $^{*}p < 0.1$; $^{**}p < 0.05$; $^{***}p < 0.01$. Robust standard errors in parentheses. Household-level covariates: Female household head, ln income, ln house size, family size, child family member, elderly family member, family member party membership, family member military service. Respondent-level covariates: Age, female, years of education, college education, party membership, military service, retired, unable to work, religious belief, birthplace Đà Nẵng.

Table D.4: Regression Estimates with Logged and Binary Dictator Game Sharing, Disaggregated Victimhood Indicators

	Panel A: $\ln(1 + \textbf{Dictator Game Sharing})$					
	(1)	(2)	(3)	(4)	(5)	(6)
γ_1: Direct Victim	−0.093	0.284	−0.528*	−0.040	−0.501*	−0.005
	(0.244)	(0.331)	(0.279)	(0.356)	(0.286)	(0.357)
γ_2: Indirect Victim	−0.134	0.340	−0.272	0.225	−0.098	0.430
	(0.296)	(0.380)	(0.299)	(0.391)	(0.316)	(0.399)
τ: Your Pain	0.638***	1.042***	0.674***	1.150***	0.666***	1.163***
	(0.193)	(0.261)	(0.192)	(0.255)	(0.193)	(0.255)
η: Game Timing	0.125	0.140	0.134	0.155	0.175	0.195
	(0.192)	(0.193)	(0.190)	(0.191)	(0.192)	(0.192)
δ_1: Direct Victim × Your Pain		−0.783*		−0.985**		−1.019**
		(0.449)		(0.442)		(0.446)
δ_2: Indirect Victim × Your Pain		−0.940*		−0.988*		−1.044*
		(0.529)		(0.541)		(0.551)
F-test for $\gamma_1 = \gamma_2$	0.017	0.018	0.587	0.376	1.313	0.969
F-test for $\delta_1 = \delta_2$		0.069		0.000		0.002
F-test for $\delta_1 = \delta_2 = 0$		2.465*		3.335**		3.611**
Average outcome	1.984	1.984	1.984	1.984	1.984	1.984
Adjusted R^2	0.051	0.057	0.096	0.107	0.115	0.127
	Panel B: $\mathbb{1}[\textbf{DG Sharing} > 0]$					
γ_1: Direct Victim	−0.031	0.055	−0.123*	−0.013	−0.120*	−0.008
	(0.060)	(0.081)	(0.068)	(0.087)	(0.070)	(0.088)
γ_2: Indirect Victim	0.049	0.163	0.018	0.137	0.062	0.188*
	(0.079)	(0.103)	(0.080)	(0.105)	(0.085)	(0.109)
τ: Your Pain	0.140***	0.234***	0.145***	0.255***	0.141***	0.256***
	(0.048)	(0.064)	(0.048)	(0.062)	(0.048)	(0.062)
η: Game Timing	0.048	0.051	0.049	0.053	0.059	0.063
	(0.048)	(0.048)	(0.048)	(0.048)	(0.048)	(0.048)
δ_1: Direct Victim × Your Pain		−0.179*		−0.223**		−0.231**
		(0.109)		(0.108)		(0.109)
δ_2: Indirect Victim × Your Pain		−0.228		−0.239*		−0.252*
		(0.141)		(0.144)		(0.147)
F-test for $\gamma_1 = \gamma_2$	0.995	0.979	2.647	1.772	3.935**	2.830*
F-test for $\delta_1 = \delta_2$		0.097		0.011		0.018
F-test for $\delta_1 = \delta_2 = 0$		2.151		2.863*		3.080**
Average outcome	0.502	0.502	0.502	0.502	0.502	0.502
Adjusted R^2	0.047	0.053	0.087	0.096	0.102	0.112
Observations	436	436	436	436	436	436
Week FE	✓	✓	✓	✓	✓	✓
Household-level covariates			✓	✓	✓	✓
Respondent-level covariates					✓	✓

Note: $^*p < 0.1$; $^{**}p < 0.05$; $^{***}p < 0.01$. Robust standard errors in parentheses. Household-level covariates: Female household head, ln income, ln house size, family size, child family member, elderly family member, family member party membership, family member military service. Respondent-level covariates: Age, female, years of education, college education, party membership, military service, retired, unable to work, religious belief, birthplace Đà Nẵng.

D.6 Past Victimization and Social Engagement

Table D.5: Disaggregated Agent Orange Exposure and Social Group Engagement

	Panel A: Social Group Membership					
	(1)	(2)	(3)	(4)	(5)	(6)
γ_1: Direct Victim	0.454***	0.485***	0.191***	0.216***	0.107	0.151*
	(0.054)	(0.074)	(0.067)	(0.082)	(0.069)	(0.082)
γ_2: Indirect Victim	0.057	0.044	−0.047	−0.096	0.014	−0.029
	(0.072)	(0.098)	(0.073)	(0.099)	(0.073)	(0.095)
τ: Your Pain	−0.036	−0.025	−0.029	−0.030	−0.029	−0.017
	(0.045)	(0.062)	(0.043)	(0.057)	(0.042)	(0.056)
η: Game Timing	0.031	0.033	0.032	0.037	0.031	0.038
	(0.045)	(0.045)	(0.043)	(0.043)	(0.042)	(0.043)
δ_1: Direct Victim × Your Pain		−0.054		−0.049		−0.088
		(0.099)		(0.091)		(0.089)
δ_2: Indirect Victim × Your Pain		0.035		0.113		0.105
		(0.135)		(0.140)		(0.138)
F-test for $\gamma_1 = \gamma_2$	31.236***	18.484***	8.539***	8.997***	1.139	2.807*
F-test for $\delta_1 = \delta_2$		0.369		1.176		1.681
F-test for $\delta_1 = \delta_2 = 0$		0.232		0.595		0.966
Average outcome	0.443	0.443	0.443	0.443	0.443	0.443
Adjusted R^2	0.159	0.156	0.274	0.273	0.327	0.328
	Panel B: Social Group Leadership					
γ_1: Direct Victim	0.094**	0.090	−0.031	−0.041	−0.047	−0.051
	(0.039)	(0.056)	(0.049)	(0.061)	(0.051)	(0.062)
γ_2: Indirect Victim	0.011	0.047	−0.027	−0.015	−0.001	0.014
	(0.056)	(0.077)	(0.057)	(0.080)	(0.058)	(0.080)
τ: Your Pain	−0.047	−0.034	−0.033	−0.035	−0.037	−0.034
	(0.032)	(0.037)	(0.032)	(0.037)	(0.033)	(0.038)
η: Game Timing	0.020	0.019	0.007	0.006	0.012	0.010
	(0.032)	(0.032)	(0.030)	(0.030)	(0.031)	(0.031)
δ_1: Direct Victim × Your Pain		−0.000		0.019		0.009
		(0.076)		(0.073)		(0.073)
δ_2: Indirect Victim × Your Pain		−0.077		−0.027		−0.034
		(0.094)		(0.094)		(0.095)
F-test for $\gamma_1 = \gamma_2$	2.131	0.253	0.005	0.086	0.502	0.548
F-test for $\delta_1 = \delta_2$		0.496		0.182		0.157
F-test for $\delta_1 = \delta_2 = 0$		0.348		0.092		0.083
Average outcome	0.122	0.122	0.122	0.122	0.122	0.122
Adjusted R^2	0.017	0.015	0.111	0.107	0.140	0.136
Observations	436	436	436	436	436	436
Week FE	✓	✓	✓	✓	✓	✓
Household-level covariates			✓	✓	✓	✓
Respondent-level covariates					✓	✓

Note: $^*p < 0.1$; $^{**}p < 0.05$; $^{***}p < 0.01$. Robust standard errors in parentheses. Household-level covariates: Female household head, ln income, ln house size, family size, child family member, elderly family member, family member party membership, family member military service. Respondent-level covariates: Age, female, years of education, college education, party membership, military service, retired, unable to work, religious belief, birthplace Đà Nẵng. Model specifications follow Table 4 in the main text.

D.7 Open-Ended Survey Responses and Topic Modeling

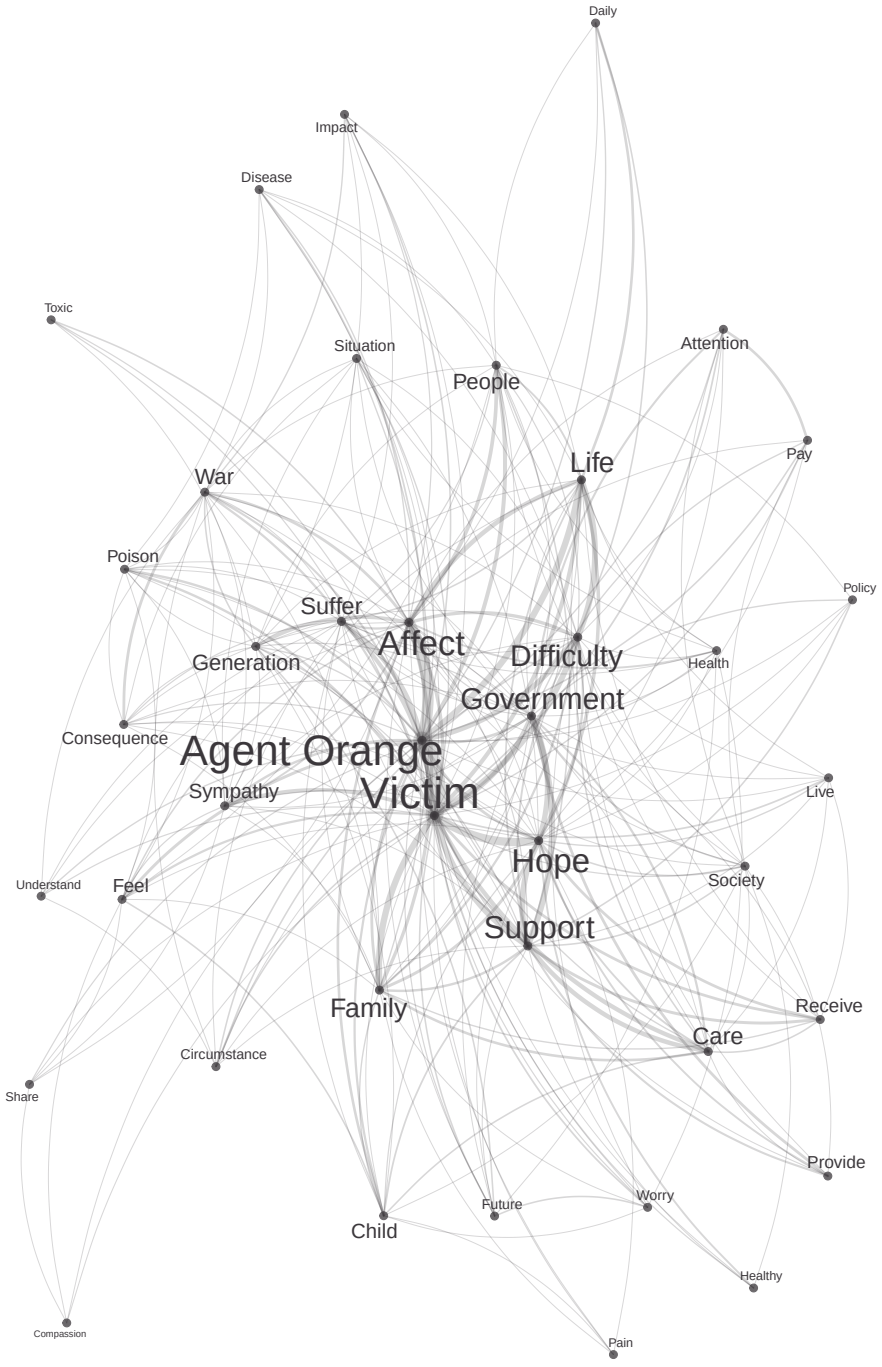


Figure D.3: Token Co-Occurrence Network of Human-Translated Texts

Note: Co-occurrence network of the 40 most frequent tokens. Node label size (edge width) is proportional to the square root of token (co-occurrence) frequencies. Texts were translated by a research assistant.

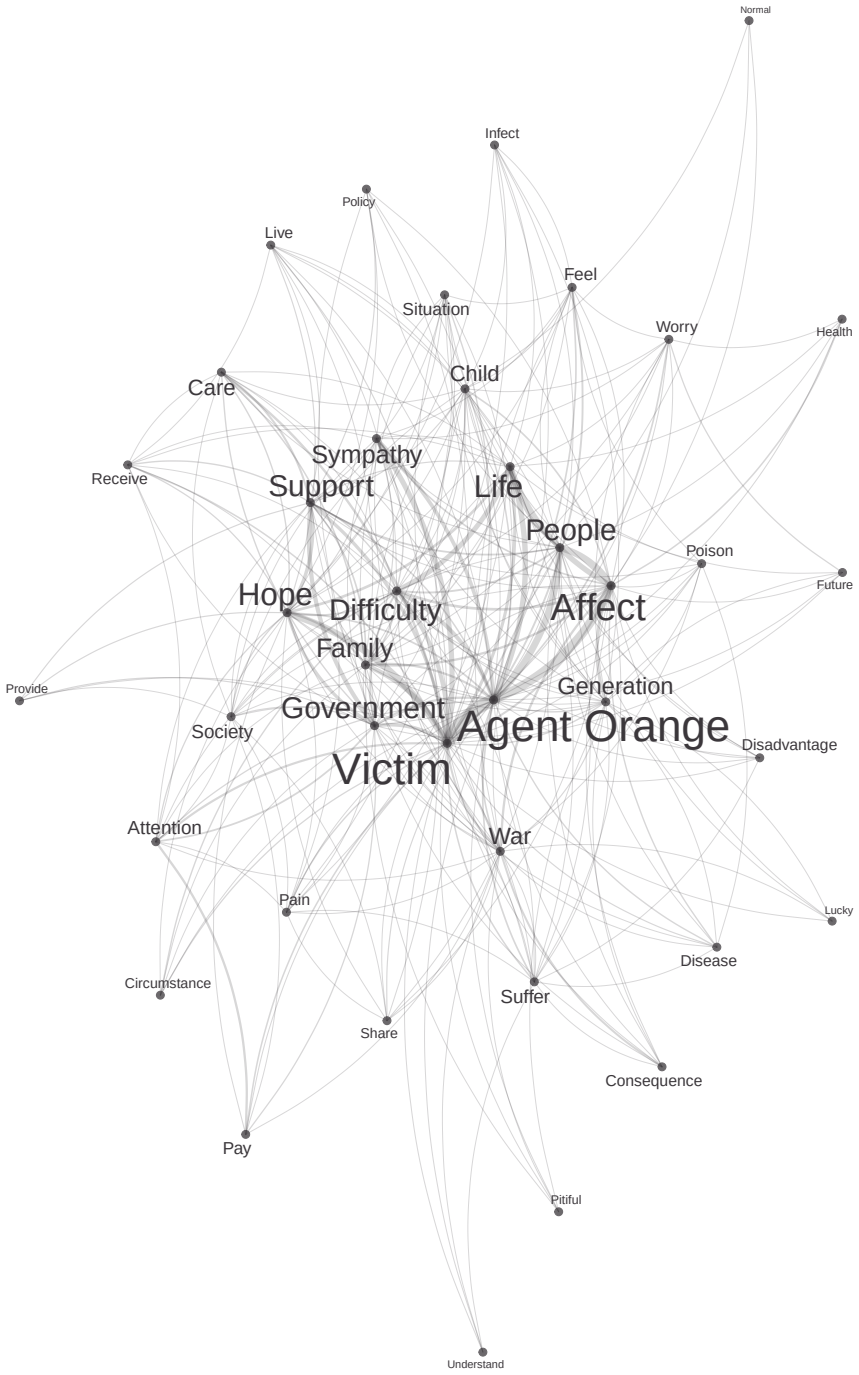
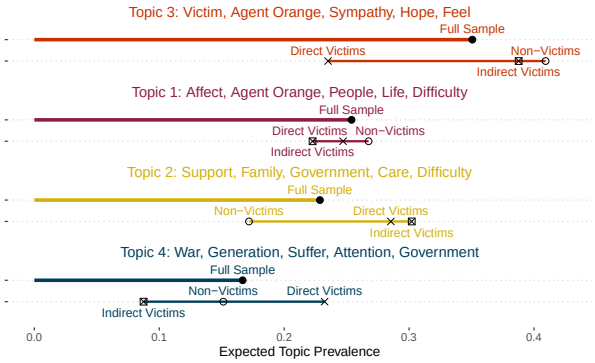
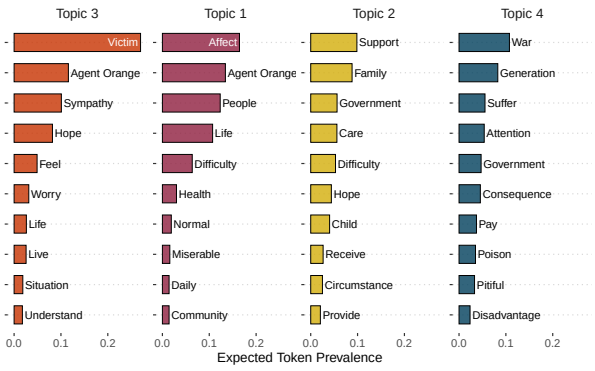


Figure D.4: Token Co-Occurrence Network of Machine-Translated Texts

Note: Co-occurrence network of the 40 most frequent tokens. Node label size (edge width) is proportional to the square root of token (co-occurrence) frequencies. Texts were translated by Google Translation API.



(a) Topic Prevalence



(b) Topic-Token Prevalence

Topic 3

NV: Little information and opportunities to contact Agent Orange victims, so not much understanding to assess the level of concern and worry for them.
NV: No discrimination, respect victims.
NV: Hope they have a better life.
NV: Hope Agent Orange victims will be healthier and have less illness.
NV: No cases of re−localization have been encountered so I have no idea.
IV: Sympathy for the victims. Hope they get better.
NV: Pity the victims hope they get better.
NV: Very sympathetic and loving to the victims of Agent Orange.
NV: Worry about the victim's future fate. When their parents die, they don't know where their fate will go.
NV: Sympathize with the plight of Agent Orange victims.
NV: I feel sorry for them, but it's their fate. I hope they try to overcome their fate and live optimistically.

Topic 1

NV: People who died from Agent Orange had very difficult lives.
DV: People affected by Agent Orange have long−term effects on their lives.
NV: People affected by Agent Orange have their bodies and lives affected for life.
NV: People affected by Agent Orange have their health and daily life affected.
NV: People affected by Agent Orange have a very difficult life in both daily life and work.
NV: People affected by Agent Orange have many lives affected.
NV: People exposed to Agent Orange suffer disadvantages in life.
NV: People affected by Agent Orange have many health problems.
NV: Because Agent Orange makes it difficult.
DV: Life is very difficult, affecting health a lot.
NV: People affected by Agent Orange have many lives affected.
NV: People affected by Agent Orange are disadvantaged and have difficulties in life.

Topic 2

IV: The family thanks the ward association for their care, encouragement, and gifts during the holidays.
IV: Can't send the child to school, hope to have a place to take care of the child, and support with financial support to take care of the child.
DV: State welfare standards are complete and timely. Monthly medicine is provided in full and on time.
DV: Currently I am not receiving the prescribed nursing care benefits.
IV: The family thanks the Party and neighbors for their care and help.
NV: Thanks to the government for additional living expenses support for those in difficult circumstances.
IV: Low income family, not enough to cover living expenses. Hope to receive additional financial support.
NV: I hope the Party and State will have many plans to support economically and spiritually those who have contributed to the Revolution.

Topic 4

DV: This is something no one wants. The negative psychology collapses when discovering the disease. Complications of the poison cause many different diseases.
NV: That is the terrible consequence of war. Lasting for generations. Extremely sad.
DV: It is a common effect caused by war so we accept to bear it.
DV: Agent Orange is a legacy of war. It causes many diseases that affect many generations. There are many tragic situations. In old age, many diseases arise. I hope that if war breaks out, toxic chemicals will not be used.
NV: There are many cases of infection, the third generation still has deformities. Some people did not participate in the resistance but lived in areas contaminated with toxic chemicals, so their children were still born with deformities. Very pitiful.
DV: No one wants it, but because of war, they have to suffer, affecting many generations, so it is extremely pitiful and miserable. Society needs to pay more attention.

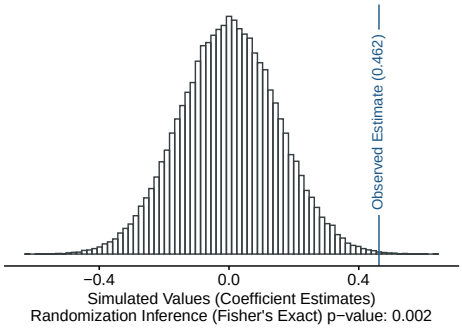
(c) Representative Responses

Figure D.5: Topics in the Open-Ended Survey Responses, with Machine-Translated Texts

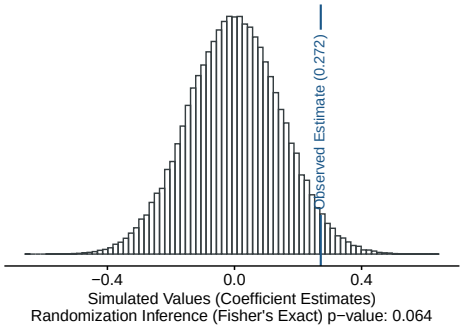
Note: Structural Topic Model (STM, Roberts et al., 2013, 2014) estimates with machine-translated texts with Google Translation API. To facilitate inter-interpreter (human vs. machine) comparisons, the STM estimates are obtained with the number of topics $K = 4$ as in the baseline estimates reported in the main text. (a) Symbols and segments represent topic prevalence and the range of subsample prevalence, ordered by the full-sample topic prevalence. Solid circles (hollow symbols) indicate full sample (subsample) prevalence. Text labels display the five most frequent tokens in each topic. (b) Prevalence of the ten most frequent tokens in each topic. (c) Representative responses of each topic, with high proportions of tokens assigned to each topic. Two-letter labels preceding the example texts indicate the respondents' victimhood: DV = Direct Victims; ID = Indirect Victims; NV = Non-Victims. See Section 7 of the main text for details of the estimation procedure.

E Robustness Checks

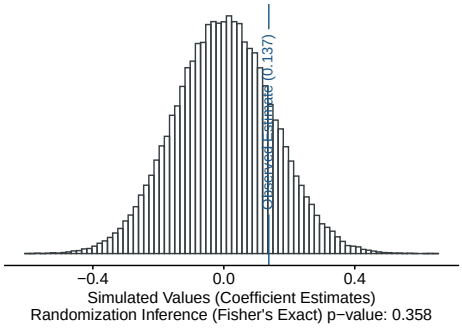
E.1 Design-Based Uncertainty: Randomization Inference



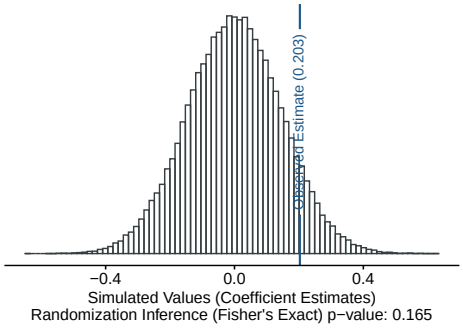
(a) γ: "My Pain" on Stated Empathy, without Controls



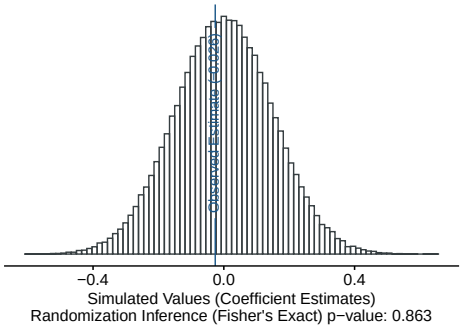
(b) γ: "My Pain" on Stated Empathy, with Controls



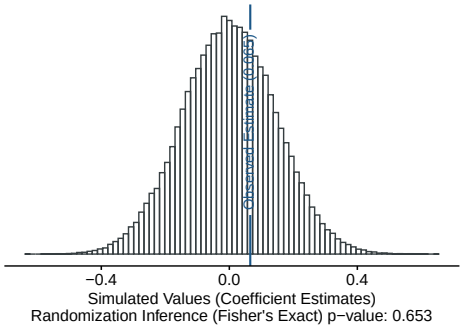
(c) τ: "Your Pain" on Stated Empathy, without Controls



(d) τ: "Your Pain" on Stated Empathy, with Controls



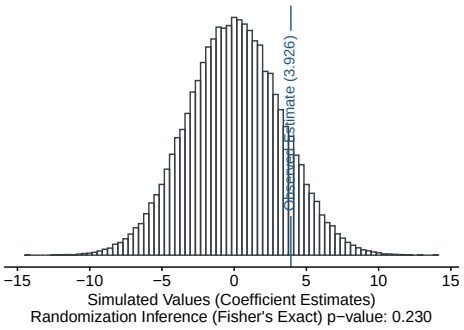
(e) η: Dictator Game Timing on Stated Empathy, without Controls



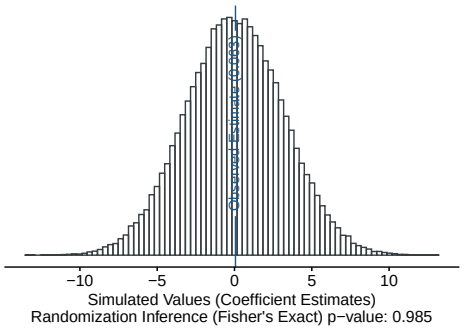
(f) η: Dictator Game Timing on Stated Empathy, with Controls

Figure E.1: Randomization Inference: Stated Empathy

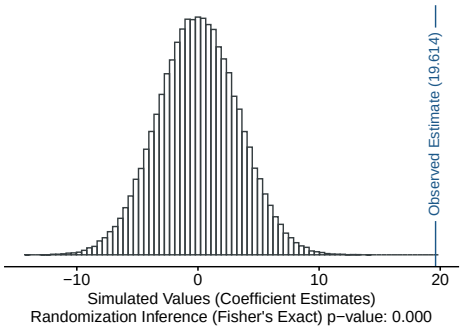
Note: Histograms show the empirical distribution of the 100,000 coefficient estimates with placebo (randomized) assignments of the key variables in the figure labels. Vertical segments indicate the observed estimates. Panels (a), (c), and (e) correspond to the estimates of Model (1) of Table 2, whilst Panels (b), (d), and (f) correspond to Model (5).



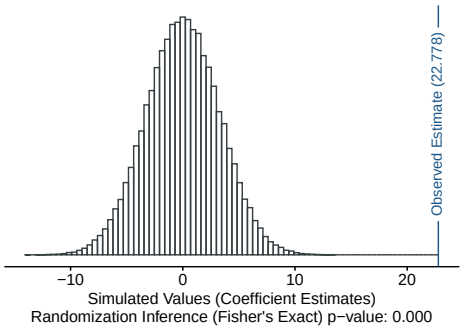
(a) γ: Main Effect of "My Pain" on Dictator Game Sharing, without Controls



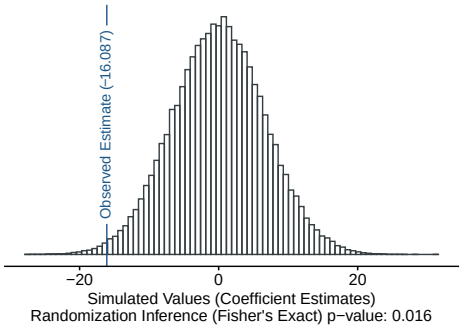
(b) γ: Main Effect of "My Pain" on Dictator Game Sharing, with Controls



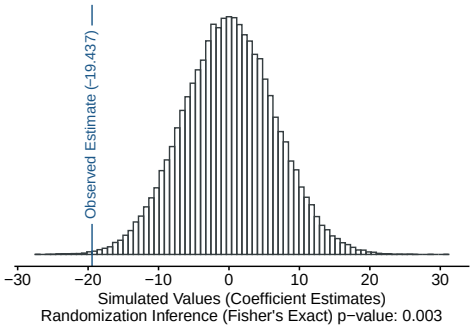
(c) τ: Main Effect of "Your Pain" on Dictator Game Sharing, without Controls



(d) τ: Main Effect of "Your Pain" on Dictator Game Sharing, with Controls



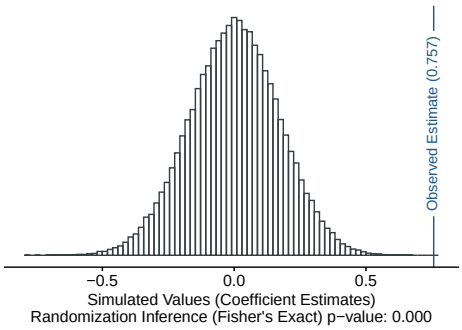
(e) δ: Interaction Effect, "My Pain" $\times$ "Your Pain," on Dictator Game Sharing, without Controls



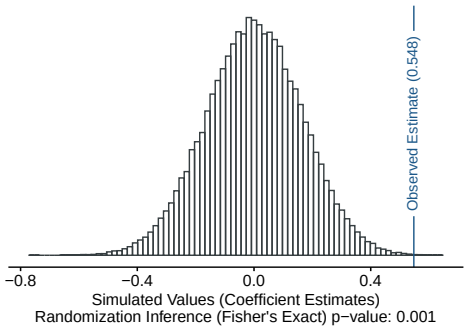
(f) δ: Interaction Effect, "My Pain" $\times$ "Your Pain," on Dictator Game Sharing, with Controls

Figure E.2: Randomization Inference: Dictator Game Sharing

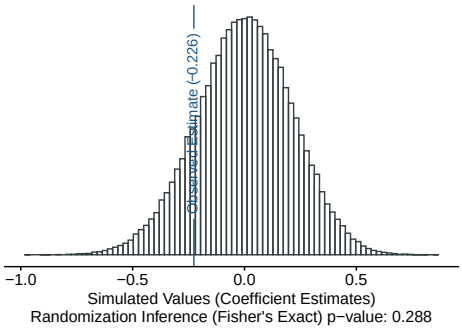
Note: Histograms show the empirical distribution of the 100,000 coefficient estimates with placebo (randomized) assignments of the key variables in the figure labels. Vertical segments indicate the observed estimates. Panels (a) and (c) correspond to the estimates of Model (2) of Table 2, whilst Panels (b) and (d) correspond to Model (6).



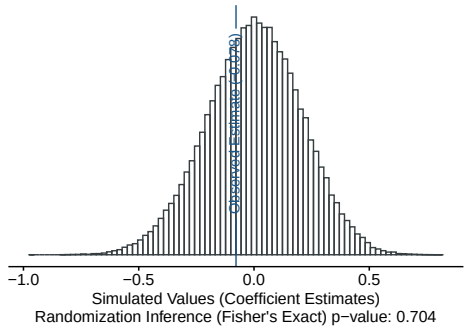
(a) γ_1: Direct Victim on Stated Empathy, without Controls



(b) γ_1: Direct Victim on Stated Empathy, with Controls



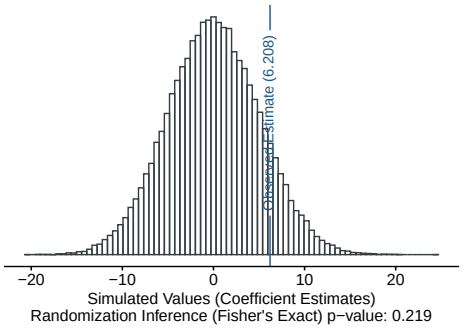
(c) γ_2: Indirect Victim on Stated Empathy, without Controls



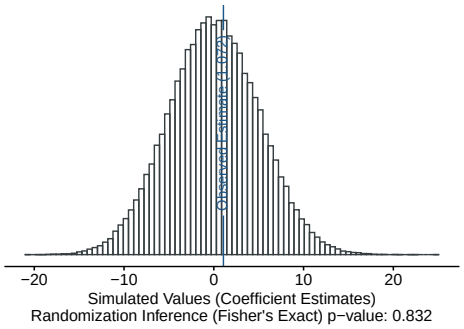
(d) γ_2: Indirect Victim on Stated Empathy, with Controls

Figure E.3: Randomization Inference: Stated Empathy, Disaggregated Victimhood

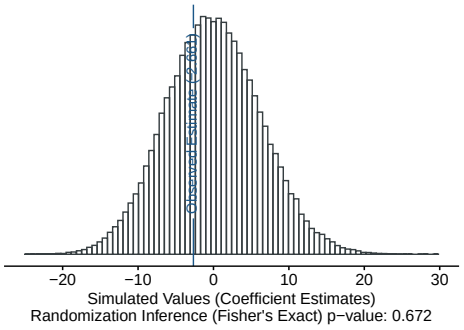
Note: Histograms show the empirical distribution of the 100,000 coefficient estimates with placebo (randomized) assignments of the key variables in the figure labels. Vertical segments indicate the observed estimates. Panels (a) and (c) correspond to the estimates of Model (1) of Table 4, whilst Panels (b) and (d) correspond to Model (5).



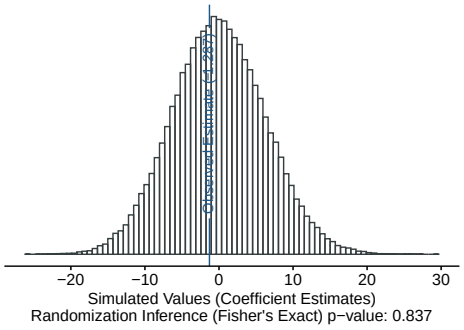
(a) γ_1: Main Effect of Direct Victim on Dictator Game Sharing, without Controls



(b) γ_1: Main Effect of Direct Victim on Dictator Game Sharing, with Controls

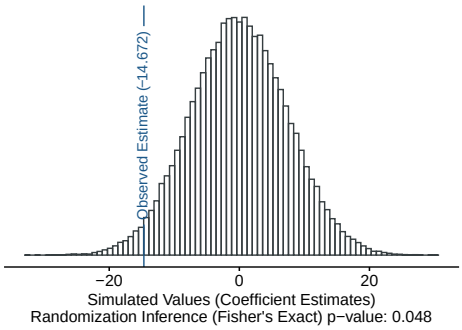


(c) γ_2: Main Effect of Indirect Victim on Dictator Game Sharing, without Controls

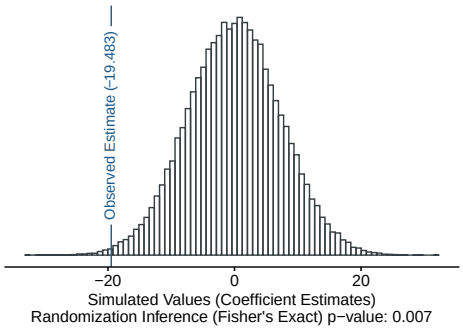


(d) γ_2: Main Effect of Indirect Victim on Dictator Game Sharing, with Controls

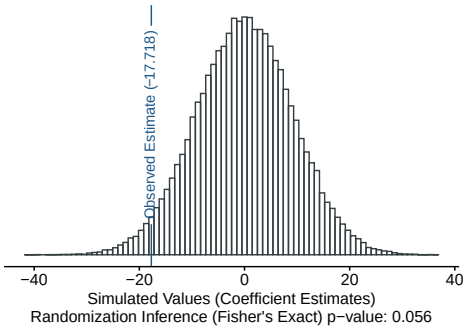
Figure E.4: Randomization Inference: Dictator Game Sharing, Disaggregated Victimhood



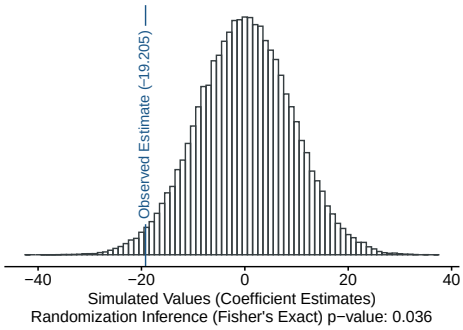
(e) δ_1: Interaction Effect, Direct Victim × "Your Pain," on Dictator Game Sharing, without Controls



(f) δ_1: Interaction Effect, Direct Victim × "Your Pain," on Dictator Game Sharing, with Controls



(g) δ_2: Interaction Effect, Indirect Victim × "Your Pain," on Dictator Game Sharing, without Controls



(h) δ_2: Interaction Effect, Indirect Victim × "Your Pain," on Dictator Game Sharing, with Controls

Figure E.4 (contd.): Randomization Inference: Dictator Game Sharing, Disaggregated Victimhood

Note: Histograms show the empirical distribution of the 100,000 coefficient estimates with placebo (randomized) assignments of the key variables in the figure labels. Vertical segments indicate the observed estimates. Panels (a) to (g) correspond to the estimates of Model (2) of Table 4, whilst Panels (b) and (h) correspond to Model (6).

E.2 Heterogeneity Across Outcome Types: Triple-Difference Estimates

The analysis reported in the main text can be viewed as separate difference-in-differences models for attitudinal and behavioral outcomes, focusing on the interaction between past victimhood and the "your pain" treatment. To formally assess whether the treatment effect systematically differs across outcomes and past victimhood, we estimate a triple-difference (TD) or difference-in-difference-in-differences (DDD) model:

$$\begin{aligned} Y_{ik} = {} & \gamma \text{MyPain}_i + \tau \text{YourPain}_i + \eta \text{GameTiming}_i + \lambda \text{Behavioral}_{ik} \\ & + \delta_1^{\text{DD}} \text{MyPain}_i \times \text{YourPain}_i + \delta_2^{\text{DD}} \text{MyPain}_i \times \text{Behavioral}_{ik} \\ & + \delta_3^{\text{DD}} \text{YourPain}_i \times \text{Behavioral}_{ik} + \delta^{\text{TD}} \text{MyPain}_i \times \text{YourPain}_i \times \text{Behavioral}_{ik} \\ & + \boldsymbol{\beta}' \boldsymbol{X}_i^{\text{HH}} + \boldsymbol{\phi}' \boldsymbol{X}_i^{\text{R}} + \text{Week}_{w(i)} + \epsilon_{ik}, \end{aligned} \tag{E.1}$$

where k indexes outcome types (attitudinal, stated empathy and behavioral, Dictator Game sharing). The TD specification pools standardized outcomes and introduces interaction terms with the outcome-type indicator, enabling a statistical test of effect heterogeneity across outcome types, or attitude-behavior inconsistencies. As the outcome is standardized, the coefficients capture the standard-deviation change in the outcome associated with a one-unit change in the predictors. To account for within-respondent correlation, we report standard errors clustered at the respondent level, along with wild cluster bootstrap p-values.

Table E.1 reports the TD estimates with and without adjustments for week fixed effects and covariates, uncovering supportive evidence for the attitude-behavior inconsistencies. First, the estimates confirm the attitude-behavior inconsistency across past victimhood. While victims exhibit significantly higher empathy than non-victims ($\gamma = 0.383$, $p_{\text{WCB}} = 0.007$; Model 4), the increased empathy does not translate into increased sharing in the Dictator Game, with a statistically insignificant difference of $\gamma + \delta_2^{\text{DD}} = -0.136$ ($p_{\text{WCB}} = 0.300$; joint Wald test). Second, the treatment effect of "your pain" varies sub-

Table E.1: Triple-Difference Estimates, Attitudinal and Behavioral Outcomes

	Outcome: Standardized Stated Empathy and Dictator Game Sharing			
	(1)	(2)	(3)	(4)
Main Effect				
γ: My Pain	0.512***	0.518***	0.334**	0.383***
	(0.136)	(0.142)	(0.143)	(0.140)
	[0.000]	[0.000]	[0.021]	[0.007]
τ: Your Pain	0.221	0.199	0.260*	0.246*
	(0.151)	(0.151)	(0.147)	(0.144)
	[0.145]	[0.189]	[0.078]	[0.092]
η: Game Timing	0.015	0.009	0.027	0.052
	(0.071)	(0.070)	(0.066)	(0.066)
	[0.829]	[0.900]	[0.681]	[0.442]
λ: Behavioral Outcome	0.130	0.130	0.130	0.130
	(0.135)	(0.135)	(0.136)	(0.137)
	[0.336]	[0.336]	[0.335]	[0.336]
Difference-in-Difference				
δ_1^{DD}: My Pain × Your Pain	−0.242	−0.218	−0.239	−0.227
	(0.185)	(0.184)	(0.181)	(0.179)
	[0.191]	[0.233]	[0.185]	[0.204]
δ_2^{DD}: My Pain × Behavioral Outcome	−0.519***	−0.519***	−0.519***	−0.519***
	(0.184)	(0.184)	(0.185)	(0.186)
	[0.005]	[0.005]	[0.005]	[0.005]
δ_3^{DD}: Your Pain × Behavioral Outcome	0.359**	0.359**	0.359**	0.359**
	(0.182)	(0.183)	(0.183)	(0.184)
	[0.049]	[0.049]	[0.050]	[0.049]
Triple Difference				
δ^{TD}: My Pain × Your Pain	−0.253	−0.253	−0.253	−0.253
× Behavioral Outcome	(0.252)	(0.252)	(0.253)	(0.255)
	[0.318]	[0.317]	[0.317]	[0.316]
Joint Wald Test				
$\gamma + \delta_2^{\mathrm{DD}} = 0$	−0.007	−0.002	−0.185	−0.136
	[0.956]	[0.990]	[0.161]	[0.300]
$\tau + \delta_1^{\mathrm{DD}} = 0$	−0.022	−0.019	0.021	0.019
	[0.841]	[0.861]	[0.845]	[0.863]
$\tau + \delta_3^{\mathrm{DD}} = 0$	0.579***	0.558***	0.619***	0.605***
	[0.000]	[0.000]	[0.000]	[0.000]
$\tau + \delta_1^{\mathrm{DD}} + \delta_3^{\mathrm{DD}} + \delta^{\mathrm{TD}} = 0$	0.084	0.087	0.128	0.125
	[0.518]	[0.505]	[0.329]	[0.345]
$\delta_3^{\mathrm{DD}} + \delta^{\mathrm{TD}} = 0$	0.106	0.106	0.106	0.106
	[0.539]	[0.541]	[0.542]	[0.541]
Average outcome (standardized)	0.000	0.000	0.000	0.000
Adjusted R^2	0.044	0.053	0.103	0.123
Observations	872	872	872	872
N Respondents (Clusters)	436	436	436	436
Week FE		✓	✓	✓
Household-level covariates			✓	✓
Respondent-level covariates				✓

Note: $^*p < 0.1$; $^{**}p < 0.05$; $^{***}p < 0.01$. Robust standard errors with respondent-level clustering in parentheses. p-values from wild bootstrap with Rademacher weights clustered at the respondent level (p_{WCB}) in square brackets. Attitudinal (stated empathy) and behavioral outcomes (Dictator Game sharing) are standardized within each category. Household-level covariates: Female household head, ln income, ln house size, family size, child family member, elderly family member, family member party membership, family member military service. Respondent-level covariates: Age, female, years of education, college education, party membership, military service, retired, unable to work, religious belief, birthplace Đà Nẵng.

stantially by both past victimhood and outcome types, highlighting the attitude-behavior inconsistency in the treatment effects among non-victim respondents. Among non-victims, the treatment effect is positive and statistically significant for behavioral outcome ($\tau+\delta_3^{\text{DD}} = 0.605$, $p_{\text{WCB}} = 0.000$), while the coefficient on the attitudinal outcome remains statistically insignificant or marginally significant depending on model specifications ($\tau = 0.246$, $p_{\text{WCB}} = 0.092$). Furthermore, the coefficient on "your pain" × behavioral outcome indicator, or the difference-in-differences, indicates a noticeable difference between the attitudinal and behavioral effects of the "your pain" treatment among non-victim respondents ($\delta_3^{\text{DD}} = 0.359$, $p_{\text{WCB}} = 0.049$). By contrast, as captured by the linear combination, $\delta_3^{\text{DD}} + \delta^{\text{TD}} = 0.106$ ($p_{\text{WCB}} = 0.541$), the difference between the attitudinal and behavioral effects of the "your pain" treatment also remains negligible among victims, both in magnitude and significance. Among victims, "your pain" has little effect on both attitudinal (empathy toward Agent Orange victims; $\tau + \delta_1^{\text{DD}} = 0.019$, $p_{\text{WCB}} = 0.863$) and behavioral outcomes (Dictator Game sharing; $\tau + \delta_1^{\text{DD}} + \delta_3^{\text{DD}} + \delta^{\text{TD}} = 0.125$, $p_{\text{WCB}} = 0.345$).

Table E.2 reports the TD estimates with the disaggregated victimization indicator, and Figure E.5 provides a visual summary of the estimates, paining a picture consistent with the main findings. First, while direct victims exhibit higher empathy ($\gamma_1 = 0.577$, $p_{\text{WCB}} = 0.000$; Model 4), the attitudinal change is not paired with a behavioral change in the Dictator Game ($\gamma_1 + \delta_3^{\text{DD}} = -0.110$, $p_{\text{WCB}} = 0.471$). In contrast, indirect victimization is not systematically associated with either attitudinal ($\gamma_2 = 0.069$, $p_{\text{WCB}} = 0.748$) or behavioral outcome ($\gamma_2 + \delta_4^{\text{DD}} = -0.119$, $p_{\text{WCB}} = 0.487$). Second, while the estimates reveal the attitude-behavior inconsistency in the effect of the "your pain" treatment among non-victim respondents, the inconsistency is invisible among either direct or indirect victims. Specifically, the difference between the attitudinal and behavioral effects of "your pain" remains substantively and statistically insignificant for both direct ($\delta_5^{\text{DD}} + \delta_1^{\text{TD}} = 0.261$, $p_{\text{WCB}} = 0.202$) and indirect victims ($\delta_5^{\text{DD}} + \delta_2^{\text{TD}} = -0.201$, $p_{\text{WCB}} = 0.533$) alike, indicating little attitudinal or behavioral effect of the experimental priming.

Table E.2: Triple-Difference Estimates, Disaggregated Victimization

	Outcome: Standardized Stated Empathy and Dictator Game Sharing			
	(1)	(2)	(3)	(4)
Main Effect				
γ_1: Direct Victim	0.725^{***}	0.728^{***}	0.549^{***}	0.577^{***}
	(0.125)	(0.128)	(0.132)	(0.131)
	[0.000]	[0.000]	[0.000]	[0.000]
γ_2: Indirect Victim	0.093	0.029	−0.012	0.069
	(0.218)	(0.213)	(0.215)	(0.213)
	[0.672]	[0.893]	[0.957]	[0.748]
τ: Your Pain	0.220	0.201	0.255^{*}	0.242^{*}
	(0.151)	(0.152)	(0.148)	(0.145)
	[0.146]	[0.183]	[0.085]	[0.097]
η: Game Timing	0.014	0.006	0.026	0.049
	(0.070)	(0.069)	(0.066)	(0.066)
	[0.850]	[0.928]	[0.694]	[0.465]
λ: Behavioral Outcome	0.130	0.130	0.130	0.130
	(0.135)	(0.135)	(0.136)	(0.137)
	[0.333]	[0.334]	[0.335]	[0.337]
Difference-in-Difference				
δ_1^{DD}: Direct Victim × Your Pain	-0.320^{*}	−0.277	-0.354^{*}	-0.324^{*}
	(0.181)	(0.180)	(0.181)	(0.181)
	[0.078]	[0.125]	[0.050]	[0.072]
δ_2^{DD}: Indirect Victim × Your Pain	−0.062	−0.055	−0.005	−0.023
	(0.278)	(0.269)	(0.270)	(0.268)
	[0.824]	[0.837]	[0.985]	[0.930]
δ_3^{DD}: Direct Victim × Behavioral Outcome	-0.687^{***}	-0.687^{***}	-0.687^{***}	-0.687^{***}
	(0.191)	(0.191)	(0.192)	(0.193)
	[0.000]	[0.001]	[0.000]	[0.000]
δ_4^{DD}: Indirect Victim × Behavioral Outcome	−0.188	−0.188	−0.188	−0.188
	(0.284)	(0.284)	(0.286)	(0.287)
	[0.510]	[0.511]	[0.509]	[0.510]
δ_5^{DD}: Your Pain × Behavioral Outcome	0.359^{*}	0.359^{*}	0.359^{**}	0.359^{**}
	(0.183)	(0.183)	(0.184)	(0.185)
	[0.051]	[0.051]	[0.050]	[0.049]
Triple Difference				
δ_1^{TD}: Direct Victim × "Your Pain"	−0.098	−0.098	−0.098	−0.098
× Behavioral Outcome	(0.273)	(0.273)	(0.274)	(0.276)
	[0.718]	[0.719]	[0.717]	[0.720]
δ_2^{TD}: Indirect Victim × "Your Pain"	−0.560	−0.560	−0.560	−0.560
× Behavioral Outcome	(0.370)	(0.370)	(0.372)	(0.374)
	[0.132]	[0.134]	[0.134]	[0.134]

(*continued*)

Table E.2 (contd.): Triple-Difference Estimates with Attitudinal and Behavioral Outcomes

Joint Wald Test				
$\gamma_1 + \delta_3^{\text{DD}} = 0$ (Direct Victim)	0.038	0.041	−0.138	−0.110
	[0.799]	[0.788]	[0.376]	[0.471]
$\delta_5^{\text{DD}} + \delta_1^{\text{TD}} = 0$ (Direct Victim)	0.261	0.261	0.261	0.261
	[0.200]	[0.198]	[0.199]	[0.202]
$\gamma_2 + \delta_4^{\text{DD}} = 0$ (Indirect Victim)	−0.096	−0.159	−0.200	−0.119
	[0.549]	[0.343]	[0.243]	[0.487]
$\delta_5^{\text{DD}} + \delta_2^{\text{TD}} = 0$ (Indirect Victim)	−0.201	−0.201	−0.201	−0.201
	[0.537]	[0.538]	[0.537]	[0.533]
$\tau + \delta_5^{\text{DD}} = 0$ (Non-Victims)	0.579***	0.560***	0.614***	0.601***
	[0.000]	[0.000]	[0.000]	[0.000]
Average outcome (standardized)	0.000	0.000	0.000	0.000
Adjusted R^2	0.057	0.072	0.108	0.126
Observations	872	872	872	872
Week FE		✓	✓	✓
Household-level covariates			✓	✓
Respondent-level covariates				✓

Note: $^{*}p < 0.1$; $^{**}p < 0.05$; $^{***}p < 0.01$. Robust standard errors with respondent-level clustering in parentheses. p-values from wild bootstrap with Rademacher weights clustered at the respondent level (p_{WCB}) in square brackets. Attitudinal (stated empathy) and behavioral outcomes (Dictator Game sharing) are standardized within each category. Attitudinal (stated empathy) and behavioral outcomes (Dictator Game sharing) are standardized within each category. Household-level covariates: Female household head, ln income, ln house size, family size, child family member, elderly family member, family member party membership, family member military service. Respondent-level covariates: Age, female, years of education, college education, party membership, military service, retired, unable to work, religious belief, birthplace Đà Nẵng.

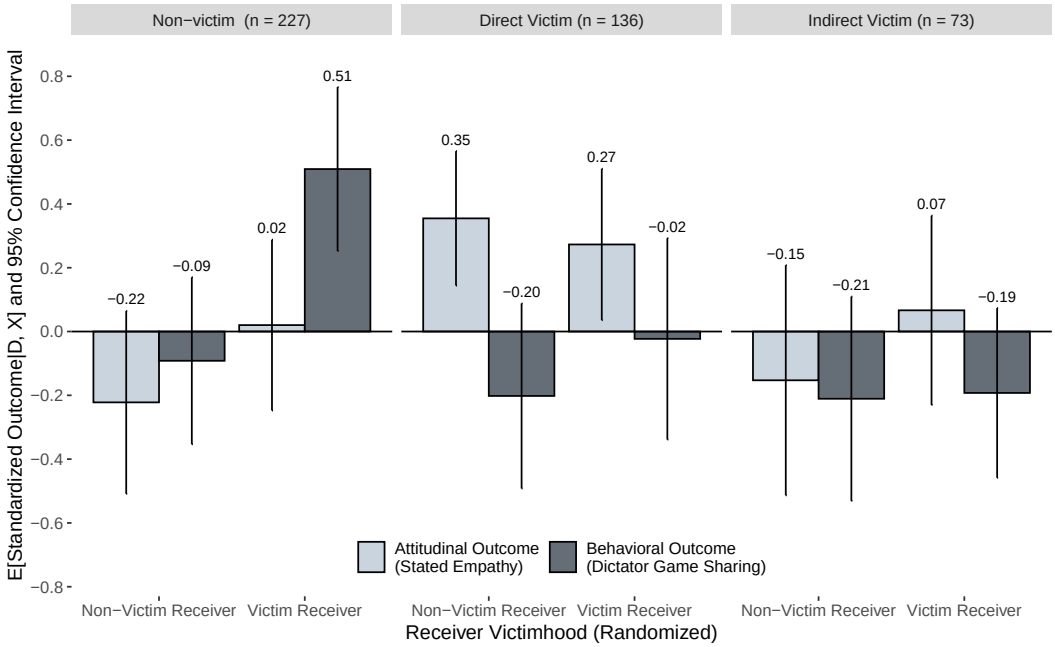


Figure E.5: Conditional Expectations, Triple Difference Estimates

Note: Conditional expectations of attitudinal (stated empathy) and behavioral outcomes (Dictator Game sharing) given the "your pain" treatment and covariates. Vertical segments represent the 95% confidence intervals. Continuous (dichotomous) variables are held at mean (mode) values. The estimates are based on Model (4) in Table E.2.

E.3 Misspecification Bias: Fully-Moderated Model Estimates

Table E.3: Single-Interaction and Fully-Moderated Model Estimates

	Outcome: Dictator Game Sharing (in 1,000 VND)			
	"My Pain"		Disaggregated Victimhood	
	(1) Single-Interaction Model	(2) Fully-Moderated Model	(3) Single-Interaction Model	(4) Fully-Moderated Model
γ: My Pain	0.063	65.488		
	(5.048)	(40.774)		
γ_1: Direct Victim			1.072	88.605*
			(6.039)	(49.338)
γ_2: Indirect Victim			−1.287	30.504
			(6.403)	(73.879)
τ: Your Pain	22.778***	21.958***	22.732***	21.833***
	(4.520)	(4.768)	(4.520)	(4.767)
η: Game Timing	2.068	1.802	2.030	0.952
	(3.234)	(3.285)	(3.259)	(3.409)
δ: My Pain × Your Pain	−19.437***	−18.199***		
	(6.461)	(6.729)		
δ_1: Direct Victim × Your Pain			−19.483**	−16.722**
			(7.666)	(8.217)
δ_2: Indirect Victim × Your Pain			−19.205**	−23.122**
			(8.504)	(9.118)
Observations	436	436	436	436
Adjusted R^2	0.152	0.178	0.148	0.172
Household-level covariates	✓	✓	✓	✓
Respondent-level covariates	✓	✓	✓	✓
Week FE	✓	✓	✓	✓
Moderator × household-level covariates		✓		✓
Moderator × respondent-level covariates		✓		✓

Note: $^{*}p < 0.1$; $^{**}p < 0.05$; $^{***}p < 0.01$. Robust standard errors in parentheses. Household-level covariates: Female household head, ln income, ln house size, family size, child family member, elderly family member, family member party membership, family member military service. Respondent-level covariates: Age, female, years of education, college education, party membership, military service, retired, unable to work, religious belief, birthplace Đà Nẵng. Following Blackwell and Olson (2022), Models (2) and (4) adjust for interaction terms between the moderator (past victimhood) and the covariates as well as the timing of the Dictator Game. Single-interaction model estimates in Models (1) and (3) correspond with Model (6) in Panels B of Tables 2 and 4 in the main text.

E.4 Functional Form Assumption: Tobit and Probit Estimates

Table E.4: Agent Orange Exposure, Stated Empathy, and Dictator Game Sharing, Tobit Marginal Effect Estimates

	Panel A: Stated Empathy (in 1–10 Scale)					
	(1)	(2)	(3)	(4)	(5)	(6)
γ: My Pain	0.288*	0.376**	0.099	0.183	0.133	0.184
	(0.158)	(0.187)	(0.143)	(0.176)	(0.121)	(0.143)
τ: Your Pain	0.079	0.177	0.172	0.247*	0.124	0.172
	(0.095)	(0.121)	(0.108)	(0.141)	(0.084)	(0.112)
η: Game Timing	−0.006	0.003	0.034	0.039	0.069	0.070
	(0.101)	(0.092)	(0.107)	(0.101)	(0.085)	(0.081)
δ: My Pain × Your Pain		−0.229		−0.186		−0.121
		(0.180)		(0.202)		(0.162)
Average outcome	8.794	8.794	8.794	8.794	8.794	8.794
Log likelihood	−675.315	−674.544	−652.653	−652.255	−640.706	−640.433
	Panel B: Dictator Game Sharing (in 1,000 VND)					
γ: My Pain	−2.825	6.188	−10.256**	1.006	−8.142*	3.476
	(4.066)	(5.297)	(4.622)	(5.813)	(4.508)	(5.584)
τ: Your Pain	12.624***	21.502***	15.057***	25.619***	15.064***	24.955***
	(3.688)	(5.077)	(3.721)	(4.755)	(3.697)	(4.764)
η: Game Timing	2.022	2.425	2.919	3.371	3.647	3.938
	(3.542)	(3.600)	(3.629)	(3.530)	(3.517)	(3.257)
δ: My Pain × Your Pain		−17.968**		−22.096***		−22.103***
		(7.158)		(6.877)		(6.442)
Average outcome	29.702	29.702	29.702	29.702	29.702	29.702
Log likelihood	−815.922	−812.757	−798.599	−793.852	−788.677	−783.281
Observations	436	436	436	436	436	436
Week FE	✓	✓	✓	✓	✓	✓
Household-level covariates			✓	✓	✓	✓
Respondent-level covariates					✓	✓

Note: $^{*}p < 0.1$; $^{**}p < 0.05$; $^{***}p < 0.01$. Robust standard errors in parentheses. Household-level covariates: Female household head, ln income, ln house size, family size, child family member, elderly family member, family member party membership, family member military service. Respondent-level covariates: Age, female, years of education, college education, party membership, military service, retired, unable to work, religious belief, birthplace Đà Nẵng. To allow for comparisons with the baseline OLS estimates, Tobit estimates report marginal effects and the corresponding standard errors rather than the coefficients of the latent variables, with continuous (dichotomous) variables are held at mean (mode) values. In Panel A, the outcome is assumed to be left-censored at one and right-censored at 10, while Panel B, the outcome is assumed to be left-censored at zero and right-censored at 80.

Table E.5: Disaggregated Agent Orange Exposure, Stated Empathy, and Dictator Game Sharing, Tobit Marginal Effect Estimates

	Panel A: Stated Empathy (in 1–10 Scale)					
	(1)	(2)	(3)	(4)	(5)	(6)
γ_1: Direct Victim	0.408**	0.439**	0.288*	0.378*	0.262*	0.297*
	(0.167)	(0.182)	(0.165)	(0.195)	(0.143)	(0.161)
γ_2: Indirect Victim	−0.150	−0.049	−0.143	−0.089	−0.052	−0.006
	(0.092)	(0.126)	(0.123)	(0.167)	(0.105)	(0.133)
τ: Your Pain	0.065	0.131	0.136	0.205*	0.098	0.138
	(0.072)	(0.089)	(0.094)	(0.124)	(0.073)	(0.096)
η: Game Timing	−0.006	0.0002	0.020	0.029	0.048	0.050
	(0.075)	(0.067)	(0.092)	(0.088)	(0.072)	(0.068)
δ_1: Direct Victim × Your Pain		−0.152		−0.206		−0.103
		(0.147)		(0.201)		(0.157)
δ_2: Indirect Victim × Your Pain		−0.178		−0.095		−0.090
		(0.171)		(0.232)		(0.178)
Average outcome	8.794	8.794	8.794	8.794	8.794	8.794
Log likelihood	−664.722	−663.982	−649.192	−648.699	−638.135	−637.881
	Panel B: Dictator Game Sharing (in 1,000 VND)					
γ_1: Direct Victim	−1.026	6.784	−11.479*	−0.258	−10.798*	0.905
	(4.668)	(6.547)	(5.870)	(7.279)	(5.952)	(6.990)
γ_2: Indirect Victim	−6.491	3.828	−8.980*	2.351	−5.671	6.245
	(5.020)	(6.271)	(5.273)	(6.706)	(5.331)	(6.668)
τ: Your Pain	12.779***	21.514***	15.157***	25.770***	15.370***	25.566***
	(3.679)	(4.961)	(3.736)	(4.810)	(3.738)	(4.941)
η: Game Timing	1.987	2.235	2.987	3.423	3.831	4.136
	(3.556)	(3.606)	(3.638)	(3.565)	(3.564)	(3.345)
δ_1: Direct Victim × Your Pain		−16.082*		−21.909**		−22.285***
		(8.685)		(8.637)		(8.463)
δ_2: Indirect Victim × Your Pain		−20.935**		−22.563***		−23.019***
		(8.634)		(8.705)		(8.126)
Average outcome	29.702	29.702	29.702	29.702	29.702	29.702
Log likelihood	−815.426	−812.183	−798.520	−793.779	−788.397	−782.975
Observations	436	436	436	436	436	436
Week FE	✓	✓	✓	✓	✓	✓
Household-level covariates			✓	✓	✓	✓
Respondent-level covariates					✓	✓

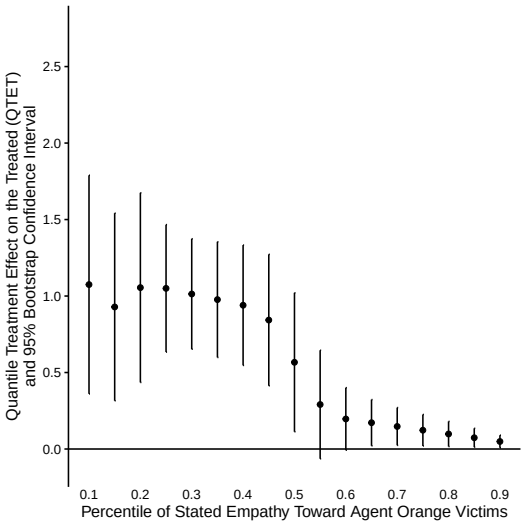
Note: $^{*}p < 0.1$; $^{**}p < 0.05$; $^{***}p < 0.01$. Robust standard errors in parentheses. Household-level covariates: Female household head, ln income, ln house size, family size, child family member, elderly family member, family member party membership, family member military service. Respondent-level covariates: Age, female, years of education, college education, party membership, military service, retired, unable to work, religious belief, birthplace Đà Nẵng. To allow for comparisons with the baseline OLS estimates, Tobit estimates report marginal effects and the corresponding standard errors rather than the coefficients of the latent variables, with continuous (dichotomous) variables are held at mean (mode) values. In Panel A, the outcome is assumed to be left-censored at one and right-censored at 10, while Panel B, the outcome is assumed to be left-censored at zero and right-censored at 80.

Table E.6: Agent Orange Exposure and Binary Dictator Game Sharing, $\mathbb{1}$[DG Sharing > 0], Probit Estimates

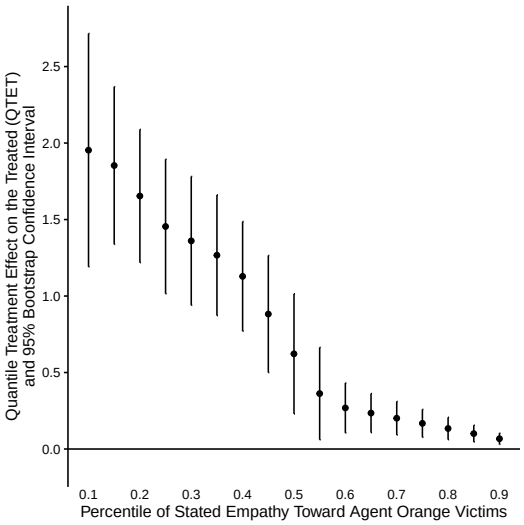
	Panel A: "My Pain" Indicator					
	(1)	(2)	(3)	(4)	(5)	(6)
γ: My Pain	−0.018	0.236	−0.164	0.159	−0.112	0.232
	(0.145)	(0.190)	(0.172)	(0.216)	(0.184)	(0.229)
τ: Your Pain	0.370***	0.621***	0.398***	0.728***	0.401***	0.755***
	(0.126)	(0.172)	(0.133)	(0.179)	(0.138)	(0.187)
η: Game Timing	0.127	0.137	0.136	0.152	0.160	0.177
	(0.126)	(0.128)	(0.132)	(0.134)	(0.138)	(0.141)
δ: My Pain × Your Pain		−0.511**		−0.655**		−0.698**
		(0.251)		(0.267)		(0.280)
Average outcome	0.502	0.502	0.502	0.502	0.502	0.502
Log likelihood	−288.829	−286.670	−275.895	−272.600	−267.642	−264.030
	Panel B: Direct and Indirect Victimization					
γ_1: Direct Victim	−0.082	0.145	−0.350*	−0.030	−0.379*	−0.046
	(0.158)	(0.217)	(0.199)	(0.251)	(0.216)	(0.265)
γ_2: Indirect Victim	0.127	0.426	0.057	0.395	0.182	0.557*
	(0.207)	(0.268)	(0.223)	(0.293)	(0.246)	(0.319)
τ: Your Pain	0.366***	0.619***	0.410***	0.745***	0.416***	0.777***
	(0.126)	(0.172)	(0.134)	(0.180)	(0.139)	(0.187)
η: Game Timing	0.129	0.136	0.149	0.165	0.178	0.195
	(0.127)	(0.128)	(0.133)	(0.136)	(0.139)	(0.141)
δ_1: Direct Victim × Your Pain		−0.472		−0.658**		−0.698**
		(0.290)		(0.306)		(0.319)
δ_2: Indirect Victim × Your Pain		−0.599		−0.675*		−0.749*
		(0.366)		(0.395)		(0.425)
Average outcome	0.502	0.502	0.502	0.502	0.502	0.502
Log likelihood	−288.239	−285.978	−274.147	−270.779	−265.046	−261.276
Observations	436	436	436	436	436	436
Week FE	✓	✓	✓	✓	✓	✓
Household-level covariates			✓	✓	✓	✓
Respondent-level covariates					✓	✓

Note: $^{*}p < 0.1$; $^{**}p < 0.05$; $^{***}p < 0.01$. Robust standard errors in parentheses. Household-level covariates: Female household head, ln income, ln house size, family size, child family member, elderly family member, family member party membership, family member military service. Respondent-level covariates: Age, female, years of education, college education, party membership, military service, retired, unable to work, religious belief, birthplace Đà Nẵng.

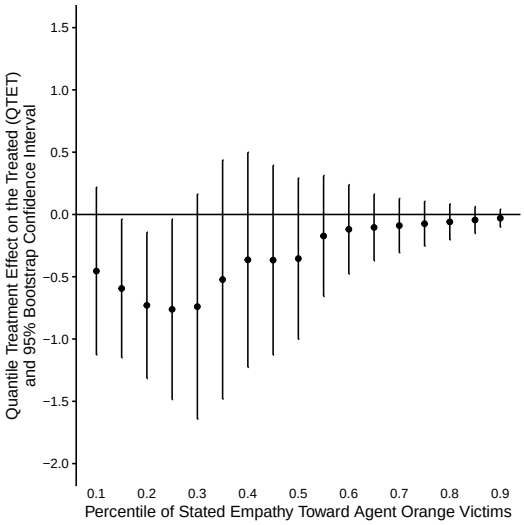
E.5 Heterogeneity Along Outcome Distribution: Quantile Treatment Effect Estimates



(a) "My Pain" and Stated Empathy ($N = 436$)



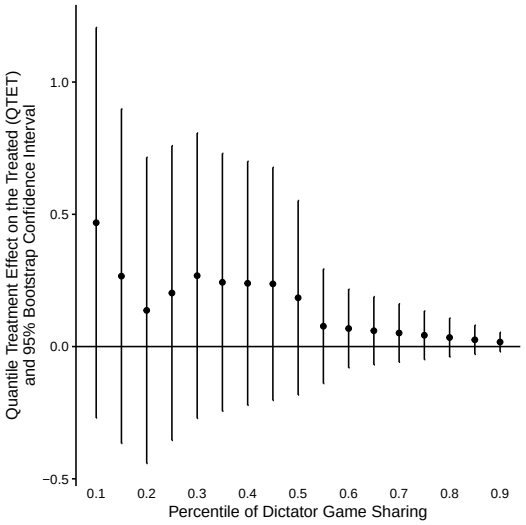
(b) Direct Victimhood and Stated Empathy ($N = 436$)



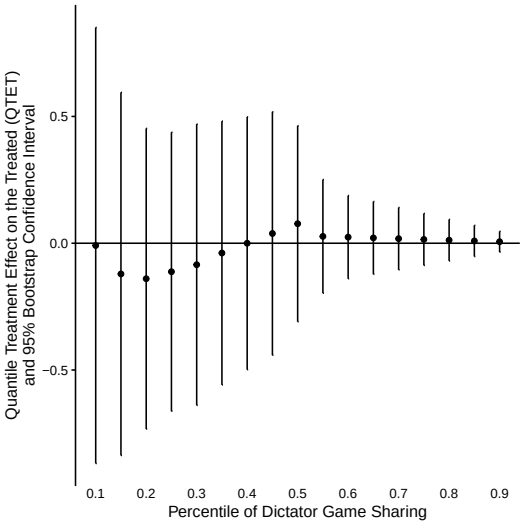
(c) Indirect Victimhood and Stated Empathy ($N = 436$)

Figure E.6: Quantile Treatment Effect on the Treated Estimates, Observed Victimhood and Stated Empathy Toward Agent Orange Victims

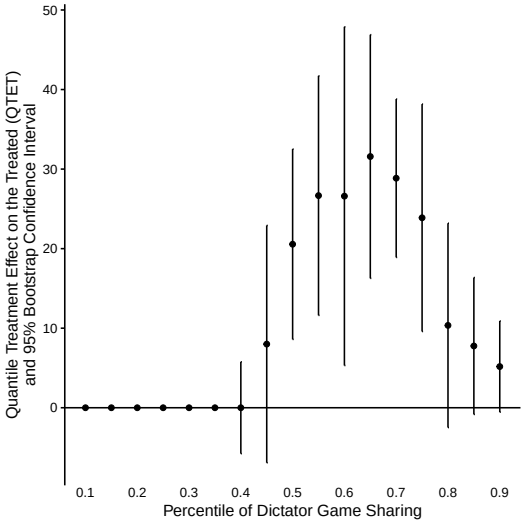
Note: Quantile treatment effect on the treated (QTET) estimates of observed victimhood on stated empathy toward Agent Orange victims. Panels (a), (b), and (c) display QTET estimates for "My Pain," direct victimhood, and indirect victimhood using the estimator of Firpo (2007), respectively. Horizontal axis represents the outcome percentiles. Dots and vertical segments indicate the QTET estimates and the corresponding 95% bootstrap confidence intervals.



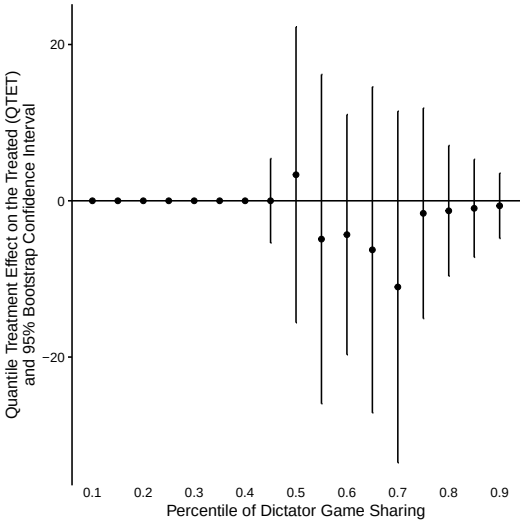
(a) "Your Pain" and Stated Empathy



(b) Dictator Game Timing and Stated Empathy



(c) "Your Pain" and Dictator Game Sharing



(d) Dictator Game Timing and Dictator Game Sharing

Figure E.7: Quantile Treatment Effect Estimates, Experimental Treatments on Stated Empathy Toward Agent Orange Victims and Dictator Game Sharing

Note: Quantile treatment effect on the treated (QTET) estimates for randomized treatments, "your pain" and the timing of the Dictator Game on (a), (b) stated empathy toward Agent Orange victims and (c), (d) Dictator Game sharing. QTET estimates are obtained using the estimator of Firpo (2007). Horizontal axis represents the outcome percentiles. Dots and vertical segments indicate the QTET estimates and the corresponding 95% bootstrap confidence intervals.

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