

Original Research

Accidents and Attributions: Differential Consequences for Religious Bias

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ABSTRACT

As people hear about accidents, they may wonder who is responsible. We extended this work by testing a model of a two-party attribution process that starts with perceptions of self-other overlap. How we communicate about accidents can also shape how people think about the parties involved. To that end, we also examined the effects of including extra-evidential (social) information about the parties involved (e.g., a person's religion) on self-other overlap and group bias. Participants ($N = 252$) read one of 12 versions of a vignette about a two-party car accident that varied accident severity, accident commission (i.e., implicit responsibility), and the driver's stated religion (Christian, Muslim, or unstated). Results showed that as people perceived larger differences between themselves and the accident victim, they judged the victim as more responsible for the accident, the driver as less responsible, and the victim's behavior as a more essential aspect of the victim's character. In addition, we found that the driver's religious label and accident commission interact to influence participants' perceptions of themselves in relation to the driver (self-driver) and in relation to the victim (self-victim) in ways that advantaged the Christian driver but not the Muslim driver. The attribution process also had consequences for Muslim, but responsibility attribution, religious bias, self-other overlap, two-party accidents, accident severity ssed.

KEYWORDS

responsibility attribution, religious bias, self-other overlap, two-party accidents, accident severity

How people assign responsibility to others has captivated social scientists for decades (e.g., Heider, 1958). One reason for this attention is that assigning responsibility comes with many social consequences. People seen as responsible for problematic situations or circumstances may receive support messages containing lower levels of person-centeredness and fewer politeness strategies (Rains et al., 2019), be offered less help (e.g., Weiner, 2006), provided less policy support (e.g., Niederdeppe et al., 2012), and punished more harshly (Martin & Heiphetz, 2021).

Walster's (1966) contribution to this scholarship was to examine accidents, situations that should be devoid of responsibility. Because an accident is "an unforeseen and unplanned event or circumstance" (Merriam-Webster, n.d.), no one should be held responsible for them. And yet, as Walster noted, people who hear about accidents are inclined, even motivated, to wonder about whether someone is, in fact, responsible. Could someone have foreseen or prevented an accident? When there are two parties involved in an accident, Walster (1966) predicted that the assignment of responsibility reflects social comparison and blame. Although many subsequent studies have attempted to replicate and extend Walster's (1966) study, two-party accidents have received little attention, theoretically or empirically. In the current study, we advance this work by testing a model of a two-party attribution process that starts with perceptions of self-other overlap.

In addition, we consider how our communication choices about how to describe an accident influences inputs and consequences of the attribution process. We paid special attention to the inclusion of social information about parties in an accident (which may be completely irrelevant to the accident), and its influence on self-other overlap, and group bias as an outcome. In doing so, this study provides insight into the links between media representations of marginalized groups and discrimination that they may feel (e.g., Saleem & Ramasubramanian, 2019).

Attributing Responsibility in Two-Party Accidents

Accidents—unplanned, unforeseen, and uncontrollable events—happen. The world is a complex and dynamic place, so it is impossible

to perfectly predict what will occur or to prevent every unfortunate event from occurring. And we know that accidents can happen to anyone. However, as Walster (1966) noted, when people hear about an accident, they may still wonder whether "someone could not have prevented the catastrophe" and "who is to blame?" (p. 73).

In her seminal study on assignment of responsibility, Walster (1966) described this process as egocentric: We psychologically distance ourselves from those we hold responsible. People may see themselves in the victim, but this perception "implies a catastrophe of similar magnitude could happen to *you* [emphasis in the original]" (p. 74). To avoid that threatening realization, people may psychologically distance themselves from the victim. On the other hand, if people decide "that *someone* [else] was responsible for the unpleasant event" (p. 74), then they can find reassurance by distancing themselves from that person (vs. the victim) by assigning responsibility to that person and by creating punitive and regulatory systems to keep such people away. Thus, identifying with one party creates a demand to distance oneself from the other party and to assign greater responsibility to the more distant party.

The assignment of responsibility is fundamentally entwined with perceptions of the self-other overlap. Self-other overlap is the "extent of overlap between one's mental representations of the self and of the other" (Laham et al., 2010, p. 302; see also Aron et al., 2004).¹ One approach to assessing self-other overlap is as people to compare themselves with another person (e.g., How different are you and the driver who was hit?); smaller differences represent greater self-other overlap, whereas larger differences represent greater separation.

One confusion in Walster's original piece was

¹ The amount of overlap in mental representations (i.e., self-other overlap) can be related to perceptions of social distance. As noted by Magee and Smith (2013), social distance (which they define as "subjective perception or experience of distance from another person or other persons" (p. 159) is a broader notion that can include distinction between ingroup and outgroup identities, unfamiliarity with others, closeness, power, and intimacy.

that she framed responsibility as potentially both a cause and a consequence of self-other overlap. Most of her article places self-other overlap at the beginning of the attribution process. We note that studies also have shown that perceived similarity with a party in an accident predicts assignment of responsibility, which supports such a causal order (e.g., Burger, 1981; Shaver, 1970). We elaborate on this rationale and offer a model for attribution, starting with self-other overlap.

Self-Other Overlap

Greater self-other overlap tends to improve how we see others: The greater the overlap, the more we perceive ourselves as similar to the other person. We respect (Laham et al., 2010), empathize with, and help (e.g., Cialdini et al., 1997), as well as positively evaluate and engage in less stereotyping (e.g., Galinsky & Moskowitz, 2000) of people whom we perceive to be like us, or people with whom we have greater self-other overlap.

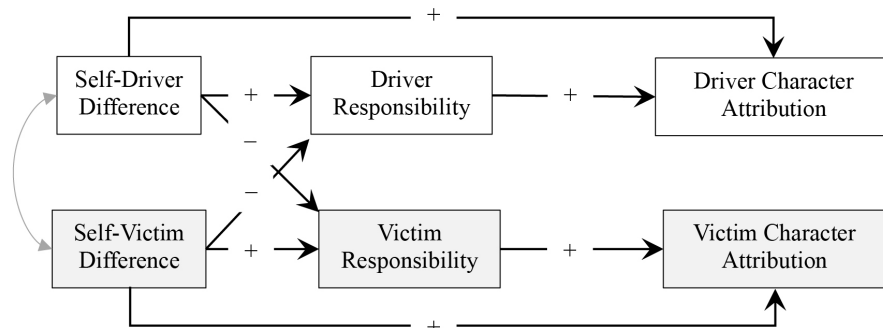
There are many ways to study self-other overlap, such as an overlap in a person's cognitive representation of the self and of another (person or group) or as perceived similarity (e.g., Myers & Hodges, 2012). Across studies and types of measurement, small differences in self-other overlap consistently produce important, positive

interpersonal and intergroup outcomes (for a review, see Aron et al., 2004). Conversely, greater differences in the self-other overlap increase perceptions that the other person is responsible or at fault and increases judgments that the other's behavior is representative of the person's character (i.e., essentialism; Martin & Heiphetz, 2021).

Figure 1 depicts a model of attribution for two-party accidents that starts with perceived differences in self-other overlap. Imagine that people hear about a car accident in which someone is driving and accidentally hits another car that was stopped on the side of the road. As people perceive larger differences between themselves and the driver (i.e., less overlap between self and driver, or self-driver difference), they will judge the driver as more responsible for anything bad that transpired. Judging the driver as more responsible, in turn, results in making this act more essential to the driver's character.

In a situation with two parties—a person who may be the agent of the accident and a victim affected by the accident—similar processes may occur when judging the victim. As people perceive larger differences between themselves and the victim (i.e., less overlap between self and victim, or self-victim differences), they will judge the victim as more responsible for anything bad that transpired and see that behavior as more essential to the victim's character.

Figure 1. Theoretical Model of Attribution in Two-Party Accidents



In a two-party situation, cognitions about one party may influence cognitions about the other party. For example, cognitions about the victim may also shape the way we think about the driver. As people perceive larger self-victim differences, they may see the driver as less responsible and the victim as more responsible for what occurred. In contrast, as people perceive larger self-driver differences, they may see the victim as less responsible and the driver as more responsible for what happened.

A fundamental question, then, is what influences the magnitude of the self-other overlap. What situational features, which may be included or omitted in our communication about accidents, such as media stories of an accident, shape how people compare themselves to others? We consider some possible answers next.

Predicting Self-Other Overlap: Story and Audience Attributes

We consider three possible predictors of self-other overlap that may vary in how we describe an accident in our communication to others (e.g., to a jury): accident severity, accident commission, and social information. We also consider a characteristic of those hearing an accident's description: attributional complexity.

Accident Severity

Accident severity is the magnitude of loss that results from an accident. Walster (1966) argued that accident severity is associated with psychological distance: With small losses, it is easier for people to identify with the victim and sympathize with the victim's loss. But as the magnitude of loss increases, it is more unpleasant to identify with the victim, because greater identification is associated with a perception that a "catastrophe of similar magnitude can happen to you [emphasis in the original]" (p. 74). Shaver (1970) later referred to this relationship as defensive attribution (p. 112). A similar logic

can be extended to the person who caused the accident (e.g., the active driver): As the magnitude of loss increases, it is more unpleasant for people to identify with the active driver, because identification acknowledges that they, too, could have caused such an accident. Walster (1966) found that people assigned drivers more responsibility when accidents had more serious outcomes.

Some studies have replicated this finding (e.g., Robbenolt, 2000), but other studies have not (e.g., Shaver, 1970; Walster, 1967). Furthermore, none of these studies tested whether accident severity influenced self-other overlap. We predict that accidents with more serious (vs. trivial) outcomes are associated with greater differences in self-driver overlap (H1a) and self-victim overlap (H1b).

Accident Commission

Accident commission, a feature considered by Heider (1958), is the degree to which a party was instrumental in producing what happened, even if the accident could not have been foreseen. Returning to the two-party car accident example, if the driver were speeding before the accident, then the driver may have played a more instrumental role in what occurred than if the driver's car slipped on the ice when responding to a victim who waved the driver over to assist with the victim's disabled car. According to Heider, commission plays an important role in the attribution of responsibility, because commission highlights causality and connection: The accident belongs more to parties whose actions played an instrumental role in what occurred.

Accident commission differs from accident severity by focusing on cause rather than consequence. Although Heider did not mention self-other overlap, we suggest that people are more likely to distance themselves from parties who have a larger role at the beginning of the accident. Therefore, we predict that differences in the self-driver overlap should be greater when the driver

is described as speeding versus when the victim is described as requesting the driver's assistance (i.e., self-driver difference: driver speeding > victim requesting assistance; H2a). In contrast, we predict that differences in the self-victim overlap should be greater given the opposite conditions (i.e., self-victim difference: victim requesting assistance > driver speeding; H2b).

Social Information

Social information about the parties involved in the accident, which Alicke (2000) described as extra-evidential information, also shapes how people perceive the parties involved in an accident (Shaver, 1970). Alicke (2000) argued that people assess blame based on both evidential information, such as accident commission and severity, and extra-evidential (social) information about the parties involved, such as a person's social status, race, or religion. For example, religious affiliation can negatively influence attitudes toward and punishment of offenders, especially if it involves members of marginalized religions (e.g., Rozmann & Levy, 2021).

Social information is a strong predictor of self-other overlap, especially information that may signal outgroup status. People often perceive that they have little overlap with others from outgroups (Schubert & Otten, 2002), especially with rivals (Smith & Schwarz, 2003), and even more when the outgroup is stigmatized (e.g., Chopik et al., 2018). Many theories of social categorization (e.g., Tajfel, 1969) and stereotyping (e.g., Allport, 1954) assume that people distinguish and distance themselves from outgroups (for a review, see Brewer, 2007; Hogg & Reid, 2006) and that people attempt to "psychologically dissociate themselves from stigmatized groups" (Chopik et al., 2018, p. 2).

In the present study, we compare people described as being from one of two religions: Muslim or Christian. Whereas Christianity is the dominant mainstream religion in the United States (PRRI, 2021), Muslim Americans

experience religious bias and discrimination in the U.S. (e.g., Ahmed & Ezzeddine, 2009; Gallardo et al., 2022; Sirin et al., 2008; Sirin & Fine, 2008). An examination of U.S. media showed that news coverage has systematically linked Muslims with terrorism and religious fervor (Saleem & Anderson, 2013) and has emphasized a coordinated effort of Muslims to be "against Christian America" (Powell, 2011, p. 90). Such depictions have been noted across a wide variety of media, including movies and video games (for a review, see Saleem & Ramasubramanian, 2019). In addition, Powell (2011) noted that news media regularly label suspected terrorists as Muslim without verification, and repeat the label often (e.g., 578 times in a two-week period).

Except in cases when the observer (i.e., the participant) identifies as Muslim, when using the accident scenario, differences in self-driver overlap are expected to be greater when the driver is described as Muslim than when the driver is described as Christian or when no religion is mentioned (H3a). Further, differences in self-victim overlap should be smaller when the driver is described as Muslim than when the driver is described as Christian or when no religion is mentioned (H3b).

Attributional Complexity

Attributional complexity is the degree to which individuals are motivated and able to consider complicated explanations for people's behavior (Fletcher et al., 1986). When individuals assign responsibility to people involved in an accident, people with greater attributional complexity (vs. simplicity) are thought to make fewer errors in their attributions (Tam et al., 2008): They are less likely to underestimate situational causes or overestimate internal causes for others' negative actions (i.e., the fundamental attribution error). They also are less punitive; for example, Tam et al. (2008) found that greater attributional complexity was associated with less support for the death penalty and more support for

rehabilitation programs. Scholars have debated whether the perspective-taking associated with attributional complexity is due to seeing oneself in others or others in oneself (Galinsky et al., 2005), but either way, greater complexity results in greater self-other overlap. Thus, we expect a negative relationship between participants' attributional complexity, so greater attributional complexity is associated with smaller differences in self-driver overlap (H4a) and in self-victim overlap (H4b).

We have outlined the rationale for each of the four predictors of self-other overlap. However, some of these situational predictors (accident severity, accident commission, and social information) may interact in affecting self-other overlap. For example, it is possible that accident commission will influence blame more when the accident's outcomes are serious rather than if they are minor. Therefore, we will explore the interrelationship between these three situational predictors on self-other overlap (RQ1).

Consequences for Character

In addition to considering features that affect self-other overlap, we consider two consequences of the attribution process. The first is the consequence for *character*: If a driver is considered more responsible for an accident and that responsibility is attributed more strongly to the driver's character, then how is the driver characterized? Can the active driver still be perceived as helpful and caring?

Imagine a situation in which a driver pulls over to help someone signaling for help on the side of the road. In attempting to pull off the road, the car slips on some ice and hits the stranded car. In many ways, this situation describes a prosocial act: The driver attempted to help but ended up doing harm. Earlier we described this situation as one that should not result in psychological distance with the driver, because the driver had little commission in the event (i.e., the degree to which the driver was instrumental in causing the accident was low). But because the outcome

was negative, it is unclear whether the driver will be characterized as caring or helpful. Studies of prosocial acts show that, when people judge others' attempts to do good, they are influenced by both the action value and the outcome value. For example, people who attempt to do good (i.e., action value) but produce little goodness (i.e., outcome value) are judged as less praiseworthy than people who attempt to do good and accomplish greater goodness (e.g., Yudkin et al., 2019). It is unclear how a person may be judged in an ambivalent situation, such as when that person's attempt to help someone resulted in a harmful outcome.

Two other situations may be easier to predict. We first predict that, if a driver is judged as more responsible for an accident, the fault of the driver's behavior will be assigned to the driver's character, so the driver will be characterized as less caring and helpful. Second, we predict that, if the victim is judged as more responsible for the outcome, the driver will be characterized as more caring and more helpful. This rationale, then, leads to a prediction that the driver will be judged as a good person—caring and helpful—only when the driver is judged as less responsible (H5a) and the victim is judged as more responsible (H5b) for what transpired.

Consequences for Religious Bias

A second consequence of the attribution process is the potential to generalize from individuals to groups. Walster (1966) argued that assigning responsibility to someone can make people feel as if they could avoid a similar disaster themselves. Further, Walster argued "he [sic] can protect himself by putting people like the ones responsible away—isolating them so they cannot cause calamities, or reforming them so they will not cause them" (p. 74). As a result, the process of blaming others may amplify group bias and discrimination. Indeed, communication research of media show that stories framed episodically (i.e., about individuals and specific, concrete

events) can result in generalizing blame from a person to their social group (e.g., DeAndrea & Bullock, 2022).

The process of generalizing blame from a person to a group seems particularly likely if social information is provided about the people who are involved in an accident. This information allows an observer to categorize individuals in the accident into social groups and then generalize blame from those individuals to these salient, relevant social groups. Therefore, we ask the following research questions: Does providing social information about the driver, such as religious affiliation, lead to stronger bias about the social group to which the driver belongs (RQ2)? Moreover, if the observer is not a Muslim, will there be a more pronounced relationship between religious bias and the driver's responsibility when the driver is described as Muslim as compared to being described as a Christian or without identifying the driver's religion (RQ3)?

METHOD

Sample

Participants ($N = 272$), who were recruited through Qualtrics.com, first responded to screening questions in order to restrict the sample to U.S. citizens who were 18-years-old or older. Following best practices with such panels, multiple attention items were included in the survey, and only those respondents who answered the attention measures correctly were included in the final sample (final $N = 252$; $n = 20$ were dropped due to incorrect responses to the attention measures).

The median age of participants was 40 years old ($M = 43.05$, $SD = 15.79$; $Min = 18$, $Max = 81$). All participants were U.S. citizens; half of the sample self-identified as female (50.4%) and half self-identified as male (49.6%). Participants reported their religion as Protestant (23%), Catholic

(19%), Other Christian (29%), Jewish (4%), Buddhist (1%), Atheist, Agnostic, or no religion (16%), or other (8%), including Mormon, Quaker, and Wiccan. The distribution of religions in the sample is generally consistent with a national study (PRRI, 2021), with a notable exception: About 1% of the U.S. public self-identify as Muslim (PRRI, 2021); however, none of the participants in this study self-identified as Muslim.

Design, Procedure, and Stimulus

The study was a 2 (accident severity: high vs. low) \times 2 (accident commission: driver or victim) \times 3 (driver religion: Christian, Muslim, or without religious label) between-subjects design in which the dependent variables (e.g., responsibility for the accident) were measured after exposure to a vignette (i.e., the written account of the accident). Participants were randomly assigned to one of the 12 experimental conditions (average n per cell = 21).

In the questionnaire, before reading one of the 12 experimental vignettes, participants were familiarized with the use of magnitude scales (Hamblin, 1974; Lodge, 1981). Participants were instructed that, for magnitude scales, 0 represents the *total absence of a trait or idea*, and 100 represents a *moderate amount of a trait or an idea*. Participants' answers could be any number from 0 on up. The participants were then provided with an example of using a magnitude scale: "Rate how much you like chocolate" (e.g., "If you like chocolate *a lot*, you could answer with a number *greater than 100*, like 300 or 400, depending on how much you really like it"). Next, participants were provided with four test questions to assess their understanding of how to use magnitude scales. If participants answered a test question incorrectly, they received a response that told them their answer was incorrect and the reason why; they were then asked to retake the test item until they responded correctly. Participants were required to answer all four magnitude test items

correctly before they were allowed to continue with the rest of the questionnaire; all participants eventually succeeded in answering these items correctly.

The vignette described an accident, which included a description of the driver and the outcome of the accident for the victim. To vary *religious affiliation*, the vignette described the driver as “Joseph King . . . a young Christian man” (Christian condition), “Youssef Khan . . . a young Muslim man” (Muslim condition), or as “A man” (control condition). To vary *accident commission*, the description stated that “One day while driving, [Joseph/Youssef/a man] was going too fast. As he was pulling off the road, he hit a patch of ice and slid into another car” (driver commission condition), or “One day while driving, [Joseph/Youssef/a man] was flagged by a driver of a disabled vehicle. As [Joseph/Youssef/the man] pulled off the road, he hit a patch of ice and slid into the other car” (victim commission). To vary *accident severity*, the vignette ended with “Because of the accident, the other driver suffered a concussion, and he had to go to the hospital” (high severity condition), or “Because of the accident, the other driver suffered some cuts and scratches, but he did not have to go to the hospital” (low severity condition). An example

vignette (Muslim religion × driver commission × high severity conditions) is the following:

Youssef Khan is a young Muslim man. One day while driving, Youssef was flagged by a driver of a disabled vehicle. As Youssef pulled off the road, he hit a patch of ice and slid into the other car. Because of the accident, the other driver suffered a concussion and had to go to the hospital.

After participants responded to the measures related to the vignettes (described below), they were asked to identify details related to their experimental condition. Participants were asked to write the driver’s name. Most participants recalled the driver’s name, allowing for spelling errors (84% correct in the Christian condition, 86% correct in the Muslim condition, and 72% in the control condition). We reviewed the inaccurate answers. Some participants wrote in that they did not remember the name. Others provided alternative names: sometimes names that began with the same letter (e.g., Jack, Janice, Jake for Joseph) or that rhymed with the name (e.g., Musef for Youssef). Ultimately, we decided that although the participants may not remember the driver’s name, they were paying enough attention to the survey to answer our question (vs.

Table 1. Descriptive Statistics and Inter-Item Correlations Among Key Variables (N = 252)

	M	SD	1	2	3	4	5	6	7	8
1. Self-Driver Difference	7.03	4.67								
2. Driver Responsibility	8.87	5.43	.46**							
3. Driver Character Attribution	4.93	3.92	.51**	.47**						
4. Self-Victim Difference	6.07	4.31	.68**	.23**	.41**					
5. Victim Responsibility	4.09	3.29	.17**	.04	.35**	.38**				
6. Victim Character Attribution	3.33	3.34	.21**	.05	.45**	.39**	.78**			
7. Driver helpful/caring	6.85	4.53	-.14*	-.19**	-.11	.15**	.34**	.19**		
8. Christian Bias	2.51	1.05	.15*	.06	.10	.24**	.26**	.19**	.29**	
9. Muslim Bias	2.84	1.17	.05	.21**	.07	.03	-.02	-.06	-.07	.16**

Note. All variables were measured with magnitude scales, unbounded at the top. The scores were transformed by winsorizing at the 95th percentile, adding 1, and then taking the square root.

* $p < .05$. ** $p < .01$.

providing a nonsensical or illogical answer).

Next, participants were shown four possible details about the accident itself: (a) *he was driving too fast*; (b) *he was trying to help another driver*; (c) *the sun was in his eyes*, and (d) *the reason was not stated*. Most participants accurately selected the commission description provided in their vignette: 71% driver commission, and 77% victim commission. Last, participants were asked to rate the severity of the accident (i.e., *How severe was the accident that you read about?*) on a magnitude scale, unbounded at the top: These data were transformed (see description under Measures). Perceived severity was larger in the high-severity condition ($M = 3.02, SD = 0.64$) than the low-severity condition ($M = 2.37, SD = 0.75$), $t(250) = 7.41, p < .001$, Cohen's $d = 0.93$.

Measures

All variables were measured with magnitude scales, unbounded at the top. The scores were transformed (Fink, 2009) by winsorizing at the 95th percentile, adding 1, and taking the square root (see Table 1 for descriptive statistics and correlations among the variables). *Self-other overlap* (Lakey et al., 1996) was assessed with two single items, one for the driver and one for the victim (e.g., *How different are you and the driver who was hit?*). *Accident responsibility* (based on Trangsrud, 2010) was assessed with two sets of items with three items in each set (one set for the driver, and one for the victim; e.g., *How responsible was the driver [Name added, if applicable] for the accident?*); Cronbach's $\alpha = .90$ ($\omega = .90$) for the driver, and Cronbach's $\alpha = .86$ ($\omega = .86$) for the victim. *Character attribution* (based on Trangsrud, 2010) was assessed with two single items: one for the driver and one for the victim (e.g., *To what degree was [Joseph's/*

Youssef's/the driver's] character to blame for the accident?). *Characterization* of the driver as helpful and caring was measured with two items (e.g., *To what degree was [Joseph/Youssef/the driver] caring?*); the two items were highly correlated, $r(251) = .76, p < .001$. Religious bias (adapted from Kleinpenning & Hagedoorn's, 1993, symbolic racism dimension) was measured with two single items: one for the Christian religions and one for the Muslim religion (e.g., *To what extent do you think the values of Christianity and Christian religions are at odds with American values and way of life?*). *Attributional complexity* (based on Fletcher et al., 1986) was assessed with four items (e.g., *How much do you enjoy analyzing the reasons or causes for people's behavior?*), Cronbach's $\alpha = .93$ ($\omega = .92$).

RESULTS

Attributional Model

We tested the attribution model (proposed in Figure 1) with maximum likelihood estimation in AMOS (Arbuckle, 2021) using the covariance matrix; the errors of the endogenous variables were not allowed to covary. The fit for the hypothesized model was problematic: $\chi^2(30, N = 252) = 119.03$, relative $\chi^2 = 3.97, p < .001$, SRMR = .09, RMSEA = .10 (90% CI [.08, .13]), GFI = .912. We inspected the statistical significance of the hypothesized path coefficients and the size of the residuals of the initial model. Two predicted paths were not statistically significant: from self-driver differences to victim responsibility, and from self-victim differences to victim character attribution. In addition, one unpredicted path (from victim responsibility to driver character attribution) had a significant modification index (38.94, expected parameter

² We also tested the reversed model (responsibility \rightarrow self-other differences \rightarrow blame), and we found it had worse fit: $\chi^2(30, N = 252) = 262.12$, relative $\chi^2 = 8.74, p = .001$, SRMR = .11, RMSEA = .17 (90% CI [.16, .20]). Therefore, we rejected the reversed model.

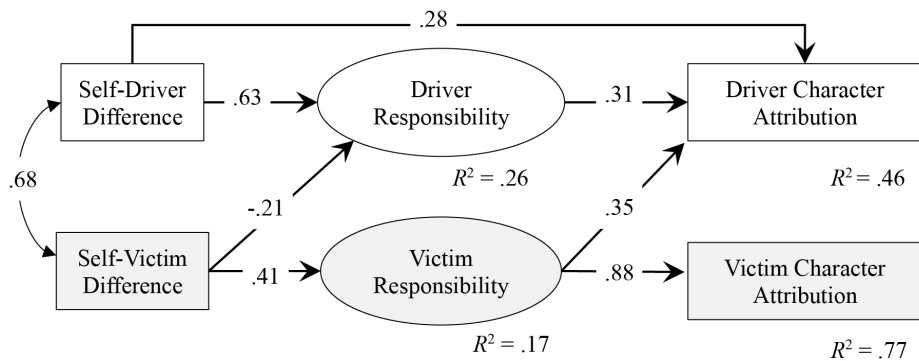
change = 3.80).

Based on these results, the two nonsignificant paths (i.e., from self-driver differences to victim responsibility and from self-victim differences to victim character attribution) were removed, and a new path (i.e., victim responsibility to driver character attribution) was added. The revised model had good fit: $\chi^2(31, N = 252) = 79.96$, relative $\chi^2 = 2.58$, $p < .001$, SRMR = .04, RMSEA = .08 (90% CI [.06, .10]), GFI = .94.³ The modification indices for the revised model were small to moderate (4.00 to 10.65, expected parameter change from -0.60 to 1.33). The output for the revised model appears in Figure 2. All of the estimated statistics were significant at $p <$

.01; the R^2 's mostly were sizable, ranging from .17 (victim responsibility) to .77 (victim character attribution).

The results showed that larger differences in self-driver overlap were associated with greater perceptions of the driver's responsibility for the accident and greater attributions that the behavior was due to the driver's character. In addition, the indirect effect of self-driver differences on the driver's character attribution was statistically significant, standardized estimate = .19, SE = .05, $p = .01$. Larger differences in self-driver overlap resulted in more character attribution directly as well as indirectly through greater perceptions of responsibility.

Figure 2. *The Empirical Results for a Revised Model of Attribution in Two-Party Accidents*



Note. The empirical model was estimated with maximum likelihood in AMOS (Arbuckle, 2021) using the covariance matrix; the errors of the endogenous variables were not allowed to covary. The revised model's fit was $\chi^2(31, N = 252) = 79.96$, relative $\chi^2 = 2.58$, $p < .001$, SRMR = .04, RMSEA = .08 (90% CI [.06, .10]), GFI = .94. The parameters were estimated using bootstrapping procedures (2,000 bootstrap samples) and bias-corrected confidence intervals (Hayes & Scharkow, 2013). Parameters shown on the paths are standardized regression weights; the parameter between the exogenous variables (.68) is a correlation. All parameters were significant at $p < .05$ with both the maximum likelihood and with bootstrapping procedures.

³ For completeness, we conducted a multiple group analysis on the revised model, testing for differences between models based on the driver's indicated religion (Muslim, Christian, or without a stated religious affiliation [control]). First, we estimated a model with no constraints on the measurement or the structural paths (i.e., the measurement and structural paths were allowed to differ for the Muslim, Christian, and control driver vignettes). Next, we estimated models that constrained the measurement coefficients, and we then also constrained the structural coefficients. Multiple group analysis showed no statistically significant difference between models if the measurement weights were constrained, $\chi^2(14, N = 253) = 19.10$, $p = .16$, or if the structural weights were constrained across the groups, $\chi^2(24, N = 253) = 36.21$, $p = .06$. The attribution process, then, seems to be robust across groups.

Self-victim differences showed slightly different effects. Larger differences in self-victim overlap were associated with greater perceptions of the victim's responsibility for the accident and weaker perceptions of the driver's responsibility for the accident. The social comparison described by Walster (1966) was found only with self-victim differences, not with self-driver differences. Perceptions of victim's responsibility for the accident were strongly associated with victim and driver character attributions.

The indirect effect for self-victim differences on victim character attribution (through victim responsibility) was statistically significant, standardized estimate = .35, SE = .05, $p = .01$. In addition, the indirect effect for self-victim difference on driver character attribution (through victim and driver responsibility) was statistically significant, standardized estimate = .08, SE = .03, $p = .04$. Larger differences in self-victim overlap resulted in stronger victim character attributions because the victim was perceived as more responsible for the accident. In addition, larger differences in self-victim overlap resulted in greater driver character attributions, because the driver was seen as less—but the victim was seen as more—responsible for the accident.

Predictors of Self-Other Overlap

Hypotheses 1-4 outlined four different predictors of self-other overlap: the seriousness of the accident (serious vs. trivial), the commission in the accident (driver speeding vs. victim requesting help), social information about the driver (religious affiliation, which was treated as a single nominal variable), and the attributional complexity of the participants. RQ1 considered whether these situational predictors interact.

To test these hypotheses, an ANCOVA was conducted with self-driver differences as the dependent variable, with story conditions (i.e., severity, commission, and driver's religion) as independent variables, and attributional complexity as a covariate; interaction terms were provided by the ANCOVA. A second ANCOVA was analyzed with self-victim differences as the dependent variable and the same independent variables and covariate. The means and standard errors by condition are presented in Table 2.

Self-Driver

The overall model for difference in self-driver overlap was statistically significant, $F(12, 239) = 4.03, p < .001, R^2 = .17$. Three predictors were

Table 2. Means and Standard Errors for Self-Driver and Self-Victim Differences by Message Condition

	Accident outcomes							
	Serious				Not serious			
	Driver speeding		Victim request		Driver speeding		Victim request	
	M	SE	M	SE	M	SE	M	SE
Muslim driver								
Self-driver	7.19 _a	0.91	5.04 _b	0.94	7.98 _a	0.82	4.81 _b	1.09
Self-victim	4.81 _a	0.88	4.88 _a	0.90	6.91	0.80	4.91 _a	1.05
Christian driver								
Self-driver	6.45 _a	0.91	6.37 _a	1.04	5.79 _a	1.09	6.27 _a	1.00
Self-victim	5.02 _b	0.88	6.30 _a	1.00	3.97 _b	1.05	7.07 _a	0.97
Control driver								
Self-driver	9.75 _a	0.91	6.12 _b	1.09	10.41 _a	0.78	4.48 _b	1.06
Self-victim	7.64 _a	0.88	6.92 _a	1.05	8.01 _a	0.74	4.52 _b	1.02

Note. These are the condition means and standard errors after controlling for attributional complexity. The cells in a row (across the serious and non-serious conditions) that have the same subscript had overlapping confidence intervals. The control driver refers to the driver with religion unreported.

statistically significant: the driver's religion, the described commission, and their interaction. The greatest self-driver difference was when the speeding driver's religion was not specified, and the least self-driver difference was when the speeding driver was identified as Christian (see Table 2). However, accident severity and the participants' attributional complexity were not statistically significant predictors of self-driver differences, so Hypotheses 1a and 4a were not supported.

Differences in self-driver overlap varied by commission, $F(1, 239) = 18.41, p < .001, \eta^2 = .07$. Self-driver differences were greater when the driver's involvement in the accident was due to the driver's speeding ($M = 8.17, SD = 4.74, n = 144$) than when it was due to the victim requesting assistance ($M = 5.51, SD = 4.13, n = 108$), $t(250) = 4.66, p < .001$, Cohen's $d = 0.59$. Thus, H2a was supported.

Self-driver differences varied by the driver's religion, $F(2, 239) = 3.14, p = .045, \eta^2 = .03$. Contrary to prediction, however, the greatest self-driver difference was when the driver's religion was not included in the story ($M = 8.28, SD = 4.84, n = 87$) compared to when the driver was described as Christian ($M = 6.27, SD = 4.63, n = 76$), $t(161) = 2.70, p = .01$, Cohen's $d = 0.42$, or Muslim ($M = 6.46, SD = 4.32, n = 89$), $t(174) = 2.63, p = .01$,

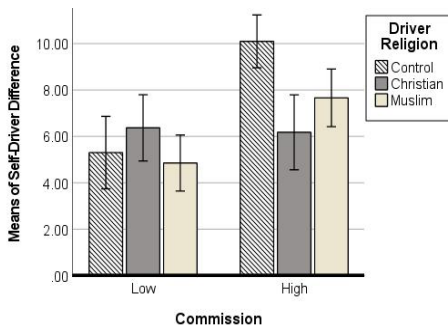
Cohen's $d = 0.40$. The self-driver differences were not significantly different for drivers described as Christian or Muslim, $t(163) = -0.28, p = .78$, Cohen's $d = -0.04$. Therefore, H3a was not supported.

In answer to RQ1, the interaction between two story conditions—commission (H2a) and religion (H3a)—was statistically significant, $F(1, 239) = 6.36, p = .002, \eta^2 = .05$. Figure 3 shows the mean levels of self-driver differences by commission and driver religion, with error bars indicating the 95% confidence intervals. The self-driver differences of the unlabeled and Muslim driver were most determined by the commission information: Self-driver differences were greatest if the driver was speeding and the smallest if the victim requested the driver's help. The differences in self-driver overlap were not influenced by the commission information when the driver was identified as Christian.

Self-Victim

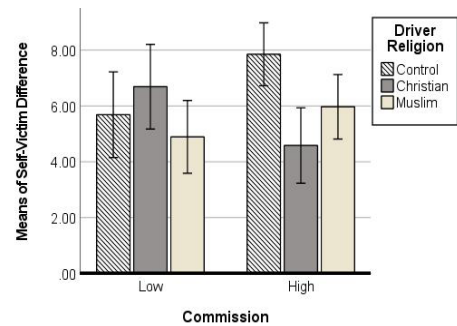
The overall model for the second dependent variable, self-victim differences, also was statistically significant, $F(12, 239) = 2.12, p = .02, R^2 = .10$. However, the main effects for accident severity and the participants' attributional complexity were not statistically significant, so

Figure 3. Average Self-Driver Difference by Driver Religion and Commission



Note. Error bars indicate 95% confidence intervals.

Figure 4. Average Self-Victim Difference by Driver Religion and Commission



Note. Error bars indicate 95% confidence intervals.

Hypothesis 1b and 4b were not supported.

The main effects for commission (H2b) and the driver's religion (H3b) also were not statistically significant; however, the interaction between commission and driver's religion was statistically significant, $F(1, 239) = 5.40, p = .01, \eta^2 = .04$. Figure 4 shows the mean levels of self-victim differences by commission and driver religion, with error bars indicating the 95% confidence intervals. For the unlabeled and for the Muslim driver, the differences in self-victim overlap were greater when the speeding driver was involved in the accident than when the victim requested the driver's assistance. In contrast, the self-victim differences for the Christian driver showed the opposite pattern: Differences in self-victim overlap were greater when the victim requested the driver's assistance than when the driver was speeding. In other words, when the driver was described as Christian, people saw themselves as more different from the victim when the accident was a result of the victim signaling the driver to

stop, but they viewed themselves as less different from the victim when the accident was a result of the driver speeding. The findings provide partial support for H2b and H3b and provide additional answers for RQ1.

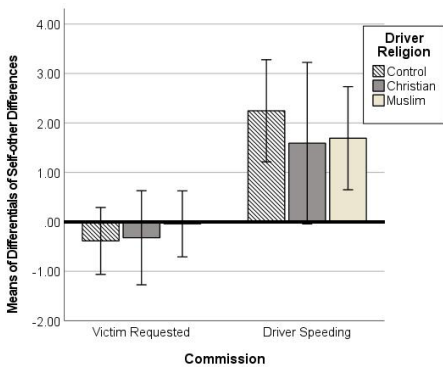
Comparing Self-Driver to Self-Victim Differences

To explore self-other overlap further, we created a differential score in which we subtracted self-victim difference (a transformed magnitude scale) from self-driver difference (a transformed magnitude scale). Positive differential scores indicate greater difference between self and driver rather than self and victim (positive score: self-driver difference > self-victim difference); negative differential scores indicate greater difference between self and victim than self and driver (negative score: self-victim difference > self-driver difference). Figure 5 shows the comparative means by driver religion and commission, with error bars indicating the 95% confidence intervals.

As seen in Figure 5, the differential scores are greater and positive (self-driver difference > self-victim difference) in the speeding condition; they are smaller and negative (self-victim difference > self-driver difference) when the victim called over the driver. Describing the driver as speeding produced greater distancing from the driver than from the victim; this effect was more pronounced for the driver with no identified religion, and it was less pronounced for the Christian driver. The alternative event, when the victim called over the driver, produced greater distance of self from the victim than from the driver. This effect was more pronounced for the religiously unlabeled driver and the least pronounced for the Muslim driver.

These findings suggest that adding religion into the description of the accident influenced the degree to which participants psychologically distanced themselves from the driver and from the victim. The Christian driver was the least affected by commission information. The commission that should create greater difference in self-driver overlap than self-victim overlap—when

Figure 5. Average Differential of Self-Other Differences (Self-Driver Minus Self-Victim) by Driver Religion and Commission



Note. Mean self-other differentials represent self-driver difference minus self-victim difference. Positive mean differential = self-driver differences > self-victim differences; negative mean differential = self-victim differences > self-driver differences. The error bars indicate 95% confidence intervals.

the driver was speeding—affected the Christian driver the least. The alternative commission, when the victim called over the driver, also created a difference in the Christian driver's favor, with greater difference in overlap of self-victim than self-driver. In contrast, when speeding, the Muslim driver was affected more than the Christian driver. Further, when the victim called over the Muslim driver, there is almost no difference in the overlaps between self-driver and self-victim; these perceptions are nearly the same. Put differently, commission never created a differential in the Muslim driver's favor.

Consequences for the Driver's Character

H5 predicted that the driver will be judged as a good person—caring and helpful—when the driver is less responsible and when the victim is more responsible for what transpired. The correlations in Table 1 support this prediction; driver responsibility: $r(250) = -.19, p = .002$ for driver as helpful and caring; victim responsibility: $r(250) = .34, p < .01$ for driver as helpful and caring. To examine this relationship, we regressed the judgment of the driver as helpful and caring onto driver responsibility and victim responsibility. The model was statistically significant, $F(2, 249) = 22.96, p < .001, R^2 = .16$. The results show that the driver was judged as more caring and helpful when the driver was assigned less responsibility (H5a, *unstandardized beta* = $-0.17, SE = 0.05, p < .001$) and when the victim was assigned more responsibility for the accident (H5b, *unstandardized beta* = $0.48, SE = 0.08, p < .001$).

Thus, H5a and H5b were supported.

Consequences for Group Bias

Responsibility for accidents can be attributed to an actor's character, and this responsibility may be generalized to the actor's social group. RQ2 and RQ3 considered whether the relationship between religious bias and the driver's responsibility would be more pronounced for the Muslim driver, for the Christian, or for the unlabeled (control) driver. To explore this question, we correlated driver responsibility with Muslim and Christian bias separately based on the drivers' described religion. The correlations are presented in Table 3. The results show that the answers to RQ2 and RQ3 are complex: As participants assigned more responsibility for the accident to the driver, they reported stronger Muslim bias when the driver was described as Muslim and also when the driver was described as Christian. The only condition in which driver responsibility and Muslim bias were uncorrelated was when no religion was mentioned in the accident description.

DISCUSSION

This study advances our understanding of how people attribute responsibility in accidents, a situation in which no one should be responsible. However, as Walster (1966) predicted, people may look for someone to blame. We focused on two-party accidents and offered a theoretical model of a two-party attribution processes.

Table 3. Correlations Between Driver Responsibility and Religious Bias by Affiliation Condition

	Control driver ($n = 87$)		Christian driver ($n = 76$)		Muslim driver ($n = 89$)	
	1	2	1	2	1	2
1. Muslim Bias						
2. Christian Bias	.18		.28 [*]		.03	
3. Driver Responsibility	.08	.17	.24 [*]	.15	.31 ^{**}	-.18

Note. The control driver refers to the driver with religion unreported.
^{*} $p < .05$. ^{**} $p < .01$.

The results supported our predictions with one notable exception: Perceptions about the victim influenced perceptions about the driver, but not vice versa.

In addition, we studied inputs into and consequences of the attribution process, with special attention to social information about the parties in an accident (religious affiliation) and social consequences (religious bias). The results (see Table 4) showed that the driver’s religious affiliation and commission in the accident interacted to influence the self-driver and self-victim overlap in ways that advantaged the Christian driver but not the Muslim driver. In addition, the attribution process had consequences for larger anti-Muslim bias across more than one condition.

Theoretical Implications for Attributions of Responsibility

One potential source of confusion in Walster’s

(1966) original piece was that she framed responsibility as potentially both a cause and a consequence of self-other overlap. Some scholars (e.g., Amacker & Littleton, 2013; Burger, 1981) have contended that psychological distance between self and other is a protective mechanism that arises after assigning blame. In other words, people assign blame and then increase the psychological distance between themselves and the responsible party. Yet most of Walster’s original arguments placed perceived similarity between oneself and another person (i.e., self-other overlap) at the beginning of the attribution process. Further, many studies have shown that self-other overlap with a person involved in an accident predicts the assignment of responsibility to that person (e.g., Burger, 1981; Shaver, 1970). We followed this second line of reasoning by elaborating on the rationale to build a model of attribution in two-party accidents that places self-other overlap at the start of the process.

As we predicted, as people perceived greater

Table 4. Summary of Findings by Hypothesis

Number	Prediction	Support
H1a	Accidents with more serious (vs. trivial) outcomes are associated with greater differences in self-driver overlap.	no
H1b	Accidents with more serious (vs. trivial) outcomes are associated with greater differences in self-victim overlap.	no
H2a	Accidents with the driver described as speeding (vs. victim requesting assistance) are associated with greater differences in self-driver overlap.	yes
H2b	Accidents with the victim requesting assistance (vs. driver described as speeding) are associated with greater differences in self-victim overlap.	partial
H3a	Accidents with the driver described as Muslim (vs. Christian or no mention of religion) are associated with greater differences in self-driver overlap.	no
H3b	Accidents with the driver described as Muslim (vs. Christian or no mention of religion) are associated with smaller differences in self-victim overlap.	partial
H4a	Greater attributional complexity is associated with smaller differences in self-driver overlap.	no
H4b	Greater attributional complexity is associated with smaller differences in self-victim overlap.	no
H5a	The driver will be judged as a good person—caring and helpful—when the driver is judged as less responsible for what transpired.	yes
H5b	The driver will be judged as a good person—caring and helpful—when the victim is judged as more responsible for what transpired.	yes

psychosocial differences between themselves and the driver, they judged the driver as more responsible for the accident, and they judged the driver's behavior as more essential to the driver's character. In addition, as people perceived larger differences between themselves and the victim, they judged the victim as more responsible for the accident and the victim's behavior as more essential to the victim's character.

We also predicted that cognition about one party would influence cognitions about the other party, but the results showed this influence was in only one direction, from the victim to the driver. As people perceived greater self-victim differences, they judged the driver as less responsible for the accident. The social comparison described by Walster (1966) occurred only with self-victim—but not self-driver—differences.

The psychological distance between observers and victims has tremendous influence on how people make sense of two-party accidents: As victims are seen as more responsible, other actors are seen as less responsible for any harm that occurred. These findings provide new directions for research into victim-blaming, which typically focuses only on the victim and on biases associated with willingness to blame victims (for a meta-analysis, see Suarez & Gadalla, 2010), without considering the implications for lessening the other party's blame.

Our findings also resonate with communication research into hero narratives (e.g., Liu et al., 2020), portrayals of prosocial acts to change Muslim bias (e.g., Riles et al., 2019), and discounting prosocial acts (e.g., Gallardo et al., 2022). Studies have shown that people who attempt to do good but bring about little goodness are not judged as praiseworthy (e.g., Yudkin et al., 2019). In each of our scenarios, some harm occurred, even when the driver was described as attempting to respond to the victim's call for help, which is a prosocial act. Our results showed that the driver was judged as more caring and helpful when the driver was

assigned less—and the victim was assigned more—responsibility for the accident. This finding suggests that even praise for a prosocial act may be less about the goodwill of the actor and more about derogating the victim.

Implications for Practice: Differential Distance and Muslim Bias

Our results showed that social information, specifically concerning the religious description of the driver, influenced self-other overlap with the driver and with the victim, and it amplified religious bias. There were dramatic differences in self-other overlap and religious bias depending on whether the driver was described as Muslim, as Christian, or without a reported religion. First, the Christian driver was the least affected by commission information. The Christian driver was the least psychosocially distanced from the participants when the driver was described as speeding and the Christian driver was kept psychologically closer than the unlabeled driver when the victim requested assistance. In contrast, the Muslim driver was slightly more psychosocially distanced from the participants when the driver was described as speeding, and there was almost no difference between self-victim and self-driver when the victim requested assistance. These findings are consistent with other examples of ingroup favoritism as shown in media studies of outgroups (for a review, see Dixon et al., 2019).

Second, Walster's (1966) claim that people may generalize an actor's responsibility to the actor's social groups appeared only for the Muslim driver. Further, assigning more responsibility to the driver was associated with greater Muslim bias when the driver was described as Muslim and when the driver was described as Christian. These findings are consistent with research that has shown that people exposed, even briefly, to out-group media characters "extrapolate their traits and characteristics to represent the entire out-group" (Ramasubramanian, 2011, p. 509). We

extend this work by showing that simply making religion salient was enough to induce outgroup generalizations and outgroup derogation.

Researchers have documented the differential treatment of Muslims in U.S. media communication across many formats (Powell, 2011; Saleem & Anderson, 2013; Saleem & Ramasubramanian, 2019) and in Muslim Americans' experiences of religious bias and discrimination (e.g., Ahmed & Ezzeddine, 2009; Sirin et al., 2008; Sirin & Fine, 2008). Our findings show another facet of the pervasive and insidious processes of bias faced by Muslims in the United States.

More broadly, our findings have implications for communication and attributions of responsibility. Recent research has focused on reasons offered in communication that mitigate or exacerbate blame for transgressors (e.g., DeAndrea & Bullock, 2022). Commission, for example, is described as a reason, one that exacerbates blame. Our study extends this research to consider the role of social cognitions (e.g., self-other overlap) in the process, and that reasons are processed differently depending on the presence of other social information.

Limitations and Future Research

The findings of this research are limited in a few ways. First, in our study, attributional complexity was not a significant predictor of self-other overlap. Recent debates on perspective taking have suggested that psychological distance is less about trait capacity and motivation (e.g., attributional complexity) and more about willingness to empathize (e.g., Carpenter et al., 2019); future studies may benefit from including both types of variables. Second, we considered two essential aspects of an accident (e.g., severity and commission), but we did not include other aspects (e.g., precautionary actions; Walster, 1966) that may also shape the attribution process. Third, the

sample was largely Christian, which is consistent with a national study of religious affiliation (PRRI, 2021), and although 1% of the U.S. population self-identify as Muslim (PRRI, 2021), none of our participants did. Therefore, this study represents outgroup processing for the Muslim driver and (largely) ingroup processes for the Christian driver. Future studies should assess the generalizability of the ingroup and outgroup processes addressed in this research by including Muslim participants in the U.S., and in a country with a large Muslim and small Christian population.⁴ Future research on other groups, on other types of interactions between group members, and on the kinds of accounts and excuses (Mills, 1940; Scott & Lyman, 1968; Sykes & Matza, 1957) that may be used by participants will be important for extending and clarifying our results.

CONCLUSION

Even in accidents, people may look for someone to blame. Our study has shown that the attribution process is anchored by self-other overlap and the perception of victims. More significantly, members of marginalized groups may experience injustice through ingroup favoritism in the attribution process and outgroup derogation in the generalization process that amplifies bias.

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⁴ We thank an anonymous reviewer for the second, excellent suggestion for future research.

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