



ORIGINAL ARTICLE

Attributional and attentional patterns in the perception of ambiguous harmful encounters involving peer and authority figures

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BACKGROUND

Self-construal influences the way people ascribe blame to victims, but it is not clear whether the same applies to harm doers, especially those in a position of authority.

PARTICIPANTS AND PROCEDURE

We examined ($N = 122$, men $n = 60$) participants' ascriptions of both blame and intentionality to harm doers (authority figure versus peer) while priming self-construal (relational versus individual self). Using eye-tracking, we explored whether priming relational self, compared to individual self, affects the allocation of attention to faces versus objects.

RESULTS

Although no effects of priming were found, the type of harm doer influenced the way people interpreted harmful social encounters. Participants attributed both greater intentionality and blame to peer than authority perpetra-

tors. Also, in the case of peer perpetrators, blame ascription was higher than judgements of intentionality, which was the opposite pattern for authority perpetrators, where judgements of intentionality were greater than ascribed blame. In regard to encoding, participants independently of the type of harm doer looked significantly longer at faces than at objects in violent scenes.

CONCLUSIONS

Our results suggest the status of perpetrator influences judgements of harm independently of intrapersonal factors, such as primed self-construal. Moreover, people perceived as authority figures are not blamed for the hurtful action, despite attributed intentionality.

KEY WORDS

blame; intentionality; encoding; authority figure; harm-doers; eye-tracking

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BACKGROUND

People's general tendency to obey authority was controversially demonstrated in the classic studies by Milgram (1963, 1965), and little has changed over the last 50 years (Doliński et al., 2017). When individuals are perceived to act following some form of coercion from an authority figure, their actions are typically viewed as less intentional (Monroe & Reeder, 2011), which provides important input for moral judgments regarding, for example, whether to blame someone (Plaks et al., 2009). While most people would assume it is wrong to intentionally harm another person, there might be some contextual mitigating factors that justify the harm doer's action (Piazza et al., 2013). For instance, actions performed by an authority figure can be viewed as less 'wrong' because are perceived as sanctioned by a rule or policy and not the result of personal feelings (Kelly et al., 2007). Furthermore, the perception of violent behaviours is related to a specific pattern of encoding (Magraw-Mickelson & Gollwitzer, 2018). For example, harm doers attract attention to a greater extent than harm receivers (Zajenkovska et al., 2022). Nonetheless to our knowledge, there are few studies examining whether the focus of attention, as well as intentionality and blame ascription, depend on whether an individual is in the position of an authority, which is especially important in the case of harmful and violent situations (Doliński et al., 2017; Milgram, 1963, 1965).

Perception of harm is related not only to the profile of the perpetrator, but also to the characteristics of the person who observes, or evaluates the situation; previous studies have shown that e.g. culture, observer's perspective, or preconceptions matter (Bodecka et al., 2022; Süßenbach et al., 2017). For instance, people with higher acceptance of rape myths tend to avoid focusing attention towards the alleged perpetrator and are more eager to direct attention toward the potential victim (Süßenbach et al., 2017). Social perception is also connected to perceivers' relevant self-schemas, which constitute a lens through which reality is both perceived and interpreted (Chen et al., 2006). Self-concept or self-construal is an idea or set of ideas of who we are, which is rather stable over time (Oyserman et al., 2012). It embraces thoughts, feelings, and actions concerning both one's relationship to others but also one's self-identity in relation to others (Singelis, 1994). That is to say, a great part of self-construal is personality, which, from socio-cognitive perspectives, is a set of knowledge patterns, on the basis of which an individual responds to external stimuli (Sedikides & Skowronski, 1990). Although humans have many different social selves (James et al., 1890), two main aspects seem to constitute the framework of individuals' identities: independent and interdependent self-construals (Markus & Kitayama, 1991). Independent

self-construal is associated positively with extraversion and openness, and negatively with neuroticism. Conversely, interdependent self-construal is linked to conscientiousness and agreeableness (Levinson et al., 2011). Also, conscientiousness and agreeableness related to interdependent self-construal (Levinson et al., 2011) were linked to greater obedience, i.e. greater willingness to order higher-intensity electric shocks to a victim (Bègue et al., 2015). Moreover, for persons with an interdependent self-construal (e.g. East Asian communities) communal traits or behaviours are important (Gaertner et al., 2008; Sedikides et al., 2003). Communitarian orientation is characteristically negatively correlated with projection, i.e. seeing one's own undesirable qualities in others (Diehl et al., 2004). Thus, it is possible that individuals who perceive themselves to be more inter-related to others (i.e. with higher interdependent self-construal) are less likely to perceive someone as provoking (Zajenkovska & Konopka, 2015) and, by extension, less eager to blame him or her when harm has been inflicted.

Furthermore these two aspects of self-construal relate to the fact that, on the one hand, an individual must feel distinct from other people – the individual self; but on the other hand, individuals must also relate to others, which forms the communal aspects of self (Turner & Onorato, 1999; Chen et al., 2006; Magraw-Mickelson & Gollwitzer, 2018). This relational aspect has been further characterised as (i) interpersonal relations defined by the relational self, and (ii) group memberships understood as the collective self (Gaertner et al., 2012). However, the fact that people become angrier when a relational, compared to a collective, group member other is harmed implies relational-self primacy (Magraw-Mickelson & Gollwitzer, 2018). Selves have different importance for each person, and in studies where self-existence was threatened, both relational and individual selves were more important than the collective self but had comparable importance (e.g. in Poland; Zajenkovska et al., 2021a).

CURRENT STUDY

Attributions of intentionality and blame directed to a harm doer depend on the type of social relations involved, and can differ when the harm doer is an equal, rather than someone in authority (Zajenkovska et al., 2021b). At the same time, the perception of harmful acts is influenced by intrapersonal characteristics, e.g. identity. People who value relational self more could possibly minimise ascribed blame due the importance of bonds with others. In the current study, we primed relational versus individual self to assess ascription of intentionality and blame. Priming activates mental representations, which cre-

ate a frame to understand and interpret social information (Bargh & Chartrand, 2000). Crucially, a priming procedure serves as a trigger of a specific mental procedure (Bargh & Chartrand, 2000). In the current study, we investigate whether priming relational self, as compared to individual self, would lead to (i) different attributions of intentionality and blame (hostile attribution subfactors) when viewing scenes depicting harmful acts, as well as (ii) distinct patterns of directed attention (investigated using an eye tracker). We stipulate that people in the relational-self condition as compared to the individual-self condition would attribute lower blame relative to intentionality (H1). People high in communal orientation typically do not emphasise the negative aspects of a given situation, conceivably by considering the more multifaceted and interconnected social contextual cues that impact their angry feelings (Diehl et al., 2004). It is possible that even though they may believe that someone did something on purpose (intentionally), they consider there to be contextual explanations which distribute and diffuse the blame attribution.

Moreover, we examine blame and intention ascription to authority versus peer harm doers. We expect that peer harm doers will be more harshly judged (ascribed higher intentionality and blame) in the individual-self activation as compared to relational-self activation (H2). People for whom relations are important tend to direct their aggressive impulses towards themselves, possibly because they value interpersonal harmony and tend to be accommodating to others (Diehl et al., 2004). In the case of an authority figure, we did not expect such differences because viewers might attribute the deeds of authority figures to more acceptable motives such as upholding the prevailing rules, and therefore blaming them would be less justified or necessary (Monroe & Reeder, 2011).

Additionally, we examine participants' attentional patterns to faces of the protagonists versus the objects in the scenes. Because activating thinking about others generates greater sensitivity to the needs of other people (Oyserman & Lee, 2008), we expect different attentional patterns after priming relational-self versus individual-self. We hypothesized that in the case of the relational-self prime condition there will be more focus on the faces of the individuals in the scenes rather than objects (H3).

Finally, studies related to moral judgements of harmful acts often focus on so-called "simple harm", understood as "prototypical" violations (e.g., Wainryb, 1991) where somebody does something to another person with a clear intent to harm (Piazza et al., 2013). At the same time, everyday life situations quite often are complex and ambiguous in nature. That is why, in the current study, we investigated the encoding and attribution of intentionality and blame in ambiguous harmful graphic scenes.

PARTICIPANTS AND PROCEDURE

PARTICIPANTS

One hundred twenty-two¹ participants recruited via social media from the community², divided into two groups, took part in the study (age $M = 23.94$, $SD = 5.33$, range from 18 to 49). The first group was primed with relational-self, and included 60 participants (men $n = 29$, age $M = 23.93$, $SD = 4.94$, range from 18 to 38; women $n = 31$, age $M = 22.87$, $SD = 3.53$, range from 18 to 32). The second group was primed with individual-self and included 62 participants (men $n = 31$, age $M = 25.93$, $SD = 7.39$, range from 18 to 49; women $n = 31$, age $M = 23.03$, $SD = 4.32$, range from 18 to 38). In order to detect an effect of $\eta^2 = .05$ with 80% power in a repeated-measures, within-between subjects ANOVA (two groups, $\alpha = .05$), a-priori calculation of statistical power G*Power suggests we would need at least 36 participants in each group.

PROCEDURE

Participants were tested individually, using a computer with an eye tracker and self-reported paper questionnaires. Due to the use of eye tracking measurements, people with reduced visual acuity were excluded from the study. Each person was randomly assigned to one of the groups: 1) priming the individual self, 2) priming the relational self. The procedure was as follows: participants met the researcher in a designated room at the university, where they were informed about the general objectives of the study, anonymity of the data, and the possibility of opting out at any time. After giving informed consent, participants were primed with individual or relational self. We used the Gaertner et al. (2012, p. 13) procedure which involves participants reading the relevant definition of self (individual or relational), after which they describe themselves in terms of that self, as follows:

"The individual self is a form of self that differentiates a person from others in terms of unique traits, experiences, and characteristics. It is the self that is separate and independent from other persons. The relational self is a form of self that is derived from close relationships (e.g., friendship, romantic relationship, parent-child) and represents aspects of self that are shared with relationship partners and define a person's role or position within important relationships. It is the self that is based on attachment to important relationship partners."

Thereafter, participants were asked to imagine that it was possible to lose one part of the self and that they awoke one day and did not have the self about which they wrote. Writing or thinking about part of our identity is aimed at activating associated schemes (Ybarra & Trafimow, 1998). Participants also estimat-

ed the effect of life (EoL) that the disappearance of the particular self would have had by answering 3 questions: “The emotional impact of losing this self would be (1 – *minimal*, 5 – *extremely high*)”; “If I lost this self, I would be exactly the same person (1 – *strongly disagree*, 5 – *strongly agree*, reverse scored)”; “If I lost this self, my life would be meaningless (1 – *strongly disagree*, 5 – *strongly agree*)”. Additionally, anticipated negative and positive affect were measured – precisely the extent to which individuals would feel: content, happy, pleased and blue, sad, unhappy (1 – *not at all*, 5 – *extremely*).

The priming procedure was followed by the presentation of visual scenes to participants, one at a time, while their eye movements were measured and they were asked to ascribe intention and blame for the harm inflicted after each scene was presented. Finally, participants completed several personality questionnaires as the study was part of a larger project. The study had approval from the university’s local ethics committee.

MEASURES

To measure intentionality and blame (components of hostile attribution), we used 54 ambiguous visual scenes presented on a computer monitor (see Wilkowski et al., 2007; Zajenkovska & Rajchert, 2020). Ambiguous scenes comprised both hostile and non-hostile cues, and studies show that hostile attributions are common in such cases (Dodge, 2006). The scenes depicted various everyday situations where some harm to a person or object took place (e.g. breaking a window, dropping a vase, taking an injection) involving two adult people: a harm doer and a target. Peer interactions were depicted in 22 images (11 types of everyday situations for both males and females); 32 images depicted an authority figure (8 types of everyday situations e.g., a police officer, a doctor, businessman/woman – either a male or female authority figure interacting with either a male or female subordinate). All the scenes presented ambiguous situations, whereby some elements of the image (e.g. facial expression, hand/leg direction of the harm-doer) indicated that the harm-doers’ behaviour was accidental, while other elements indicated intentional action. Each scene was presented for 6 seconds, then a question screen appeared. Participants were asked to rate the extent to which the depicted harm was intentional (1 – *not intended at all*, 9 – *intended*) and the extent to which they blamed the harm doer (1 – *not to be blamed for*, 9 – *to be blamed for*). To create a total score of intentionality and blame for each type of scene, we averaged the responses for all images (α intentionality = .91; α blame = .93); in addition we calculated separate indicators for peer scenes (α intentionality = .82; α blame = .88) and authority scenes (α intentionality = .86; α blame = .89).

APPARATUS

The stimuli were presented on a 17” computer screen (1920 × 1080 pixels resolution; stimulus size: 2126 × 1594 pixels). Eye movement data were collected using a Tobii Pro X3-120 remote eye tracker with a sampling rate of 120 Hz. Stimulus presentation and data recording were carried out using a Dell laptop via the iMotions Attention Tool software (version 7.2; iMotions A/S, Copenhagen, Denmark). The participants were seated at a viewing distance of approximately 60-70 cm from the computer screen. A 9-point calibration was performed before the start of the research. The data collection was monitored by an experimenter.

DATA ANALYSIS

The analysis of the gaze patterns of the ambiguous scenes was conducted using the iMotions Attention Tool software (version 9). Faces were defined as the area of interest (AOI; a frame including whole faces) using iMotion software, which also allows one to obtain statistical metrics for each AOI (e.g. fixation duration, saccades). The AOI size depended on the size of the face and was defined based on recommendation by Holmqvist and colleagues (2011) that indicated a buffer space (margin) to ensure inclusion of all fixations belonging to a given object. Because in our study only a few scenes included overlapping objects (e.g. faces and hand), in such situations analyses benefit from larger AOI sizes (> .5° visual angle margins) (Duchowski et al., 2019; Jayawardena et al., 2020; Orquin et al., 2016).

Dwell time was defined as the percentage of total available time spent in AOI calculated separately for each AOI. To make sure that respondents saw the face and not just saccaded through it, dwell time was calculated using fixation-based metrics. Fixations were qualified using the Identification by Velocity Threshold (IVT) algorithm. Dwell time indicated the time spent in AOI, based on total duration of all respondents’ fixations (excluding data points between fixations) and therefore was treated as a measure of general attention to faces or objects (e.g. knife, ball, body parts other than the face, e.g. legs, arms).

RESULTS

INTENTIONALITY AND BLAME ASCRIPTION

To test the hypothesis that self-priming differentiates the attribution of intentionality/blame we conducted a 2 (prime: relational, individual) × 2 (target: authority, peer) × 2 (hostile attribution: intentionality, blame) ANOVA, with prime between subjects and the other two factors within subjects (see Table 1).

Table 1

Correlations between eye tracking measures, relational and individual-self effect on life, and intentionality and blame ascription

Measure	1	2	3	4	5	6	7	8
1. INT_A	–							
2. INT_P	.76**	–						
3. BLM_A	.51**	.58**	–					
4. BLM_P	.44**	.69**	.77**	–				
5. DT_FA	–.04	–.09	–.08	.02	–			
6. DT_OA	.03	–.12	–.08	.02	.79**	–		
7. DT_FP	–.01	–.10	–.05	.04	.97**	.79**	–	
8. DT_OP	.07	–.06	–.10	.03	.75**	.94**	.74**	–

Note. INT_A – intentionality ascription to the authority harm doer, INT_P – intentionality ascription to the non-authority harm doer, BLM_A – blame ascription to the authority harm doer, BLM_P – blame to the non-authority harm doer, DT_FA – dwell time on authority harm doer’s face, DT_OA – dwell time on authority harm doer’s object DT_FP – dwell time on peer harm doer’s face, DT_OP – dwell time on peer harm doer’s object. **Correlation is significant at the .01 level (2-tailed).

The analysis revealed a significant within-subject main effect for target, $F(1, 120) = 121.11, p < .001, \eta^2 = .50$. Participants attributed greater hostility to peers ($M = 6.02, SE = .09$) than to authorities ($M = 5.37, SE = 0.09, p < .01, d = 0.64, 95\% CI [0.53, 0.77]$). While the within-subject main effect for hostile attribution remained not significant, $F(1, 120) = 0.59, p = .444$, the analysis revealed a significant interaction effect between hostile attribution and target, $F(1, 120) = 53.71, p < .001, \eta^2 = .31$. Participants attributed greater intentionality to peers ($M = 5.90, SE = 0.09$) than authorities ($M = 5.55, SE = 0.10$), $p < .001, d = 0.34, 95\% CI [0.22, 0.49]$, as well as greater blame to peers ($M = 6.13, SE = 0.11$) than authorities ($M = 5.19, SE = 0.11, p < .001, d = 0.77, 95\% CI [0.80, 1.10]$). Moreover, participants attributed greater intentionality ($M = 5.55, SE = 0.10$) than blame to authorities ($M = 5.19, SE = 0.11, p < .001, d = 0.31, 95\% CI [0.16, 0.57]$), and conversely greater blame ($M = 6.13, SE = 0.11$) than intentionality to peers ($M = 5.90, SE = 0.09, p = .007, d = 0.20, 95\% CI [0.06, 0.37]$). Furthermore, the between-subject main effect for priming, and effects of other interactions, remained not significant, $p = .504$.

EYE TRACKING DATA

To test the hypothesis that priming relational-self results in more focus on the faces of the individuals in the scenes, we conducted a 2 (prime: relational, individual) \times 2 (target: authority, peer) \times 2 (focus: face, object) ANOVA, with priming between subjects and the other two factors within subjects. The analyses revealed a significant within-subject main effect for the focus, $F(1, 120) = 210.70, p < .001, \eta^2 = .64$. Partici-

pants looked longer at faces ($M = 11.49, SE = 0.73$) than objects ($M = 3.60, SE = 0.27, p < .001, d = 1.42, 95\% CI [6.81, 8.96]$). The analyses revealed no significant within-subject main effect for target, $F(1, 120) = 0.81, p = .371$, nor interaction between focus and target, $F(1, 120) = 2.07, p = .153$.

Furthermore, there was no significant between-subject main effect for priming, $F(1, 120) = 2.27, p = .134$. While the second-order interactions with priming were not significant, the third-order interaction between priming, target and focus was at the trend level, $F(1, 120) = 3.32, p = .071, \eta^2 = .03$. Further investigation revealed that participants with individual-self priming looked significantly longer at authority faces ($M = 10.61, SE = 1.05$) than peers’ faces ($M = 10.06, SE = 1.02, p = .034, d = 0.07, 95\% CI [0.42, 1.04]$), but the effect was small and needs to be treated with caution. Other pairwise comparisons remained non-significant, $p = .265$.

DISCUSSION

In the current study, we aimed to examine whether people would ascribe lower blame as compared to intentionality to harm-doers after being primed with a relational self-construal. Moreover, we investigated whether peer harm doers would be judged more harshly (ascribed both higher intentionality and blame) in the individual-self as compared to relational-self priming conditions. Finally, we explored whether priming relational self, as compared to individual self, affects the time spent looking at faces versus objects. Our hypotheses regarding priming were not confirmed. Interestingly, previous studies demonstrated that self-construal (independent versus

interdependent) moderates the way people ascribe blame to victims (van Prooijen & den Bos, 2009). Nonetheless it is possible that unlike judging victims of harm, judging harm doers creates a clearer or stronger narrative (the harm-doer is clearly wrong, whereas the victim may, or may not, have behaved in such a way as to provoke their fate). This clearer blame attribution plausibly suppresses any effect of intrapersonal factors, such as aspects of identity (Cooper & Withey, 2009), influencing judgements of the harm-doer.

Although no effects of priming were detected, we found out that the type of harm doer (authority versus peer) profoundly influenced the way participants judged harmful social encounters. Crucially, in the case of peer perpetrators, blame ascription was higher than judgements of intentionality, which was the opposite pattern for authority perpetrators, where judgements of intentionality were greater than ascribed blame. It appears that although authority harm doers are afforded some notion of personal and cognitive control (intention was present), they are not blamed in turn. Based on previous studies, we know that observers' judgements of the mental motives of someone who harms an "innocent" person are impacted depending on whether or not the harm doer is pressured to do so by an authority figure (Monroe & Reeder, 2011). It is possible that this might be related to the fact that people seem to reduce their disapproval of such actions if they believe that there is some wider utility in the harmful act despite the fact that it inflicts harm initially (Nichols & Mallon, 2006; Piazza et al., 2013). This appears to be born out in the findings of the current study. Here, the blame ascribed to authority figures for the harmful behaviours they inflicted was lower than the judgements of intentionality ascribed to them, possibly due to judgements of associated utility of the act. Specifically, the authority figures are typically judged to have intended the harm (i.e. there was no accidental harm), but they are not considered blameworthy. This is because the context of the situation implies possible utility (a doctor causing some pain while administering an injection, or a police officer harming a person while restraining them). Although the question about possible factors that justify harm is still an open one (Gert, 2004; Piazza et al., 2013), it seems that in the scenarios where an authority figure is hurting somebody, such justifications may be evoked. Our results may shed some new light on findings demonstrating the propensity to comply with harmful orders from authority figures (Doliński et al., 2017).

Interestingly, participants looked significantly longer at faces than at objects across scenarios, which is generally in line with studies showing that attention to faces and, in particular, to the eye region is automatic (Thomson et al., 2019). However, in the current study, we also found that authority faces also

attract the most attention. Further research is necessary to understand why this may be, but it could be that the complexity of making disentangled judgements of intent and blame towards the authority figure may require more data collection from the face of the protagonist in this condition.

Typically, in eye-tracking studies, when participants are asked to make a selection from a range of possible options, dwell time predicts their selection. This suggests that dwell time has a causal influence on, for example, value comparison (Lim et al., 2011). In the current study, participants did not have to choose between options, but rather, they were asked to make a moral judgment: to what extent they attribute blame and intent to harm-doers. Yet here, the duration of gaze did not link to blame or intent attributions. It is possible that attribution of blame or intent depends more on more global or intrapersonal factors, as has been demonstrated elsewhere for example trait anger (Wilkowski et al., 2007), sensitivity to provocations (Zajenkowska & Rajchert, 2020) or conformity (DeYoung et al., 2002), which also might serve as moderators between the attentional process and judgments. Therefore, future studies should also include relevant individual differences to further examine the link between attention, dwell-time and attributions of blame in visual scenes.

LIMITATIONS AND CONCLUSIONS

It has to be noted that our research has some limitations. For example, we included non-identical situations in which authority figures and peers were portrayed. The rationale for these differences was that they were typical scenarios for these two types of individuals (e.g. two men/women interacting with each other at the pool, or a businessmen/-women interacting with subordinates in the office). However, especially in case of the authority figure scenarios, context may have been an additional mitigating factor. That is why it is vital to investigate how blame and intentionality are ascribed in broader events, in which authority figures are harmful. Also it would be interesting to find out in future studies whether presenting both types of harm-doers in identical situations would impact the ascription of blame.

At the same time, we hope that the study fills a gap in the literature and sheds new light on the issue of social perception. Our results suggest that perpetrator judgment is strong enough to be independent of intrapersonal factors, such as primed self-construal (relational or individual self). Moreover, the findings show that people perceived as authority figures are not blamed for the hurtful action, despite attributed intentionality; authority faces also attract the most attention. The present research has generated scope for further empirical inquiry, both from an experi-

mental perspective and also a sociological viewpoint. The impact of harm inflicted by authority figures such as police officers, prison wardens, medical staff and educators is increasingly generating questions about legitimate versus illegitimate behaviours by those in authority. Therefore, asking questions about the factors influencing judgements of the actions of those in authority is timely and necessary.

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ENDNOTES

- 1 In the case of few participants (about 20%) the calibration was less than good; that is why we checked whether excluding them would impact the results. Because it did not, and also because the eye tracking data were tied to behavioural data (e.g. intentionality assessment), we decided not to exclude those participants.
- 2 The invitation stated that the study would investigate how people perceive different social situations, what they think about themselves and other people. In previous eye-tracking studies medium effect sizes were achieved with samples of 45 to 90 participants (Wilkowski et al., 2007; Süssenbach et al., 2017).

DISCLOSURE

The authors declare no conflict of interest.

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