

**Coronashaming: Interpersonal Affect Worsening in Contexts of COVID-19 Rule
Violations**

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Abstract

Experiencing empathy for others has been linked to worsening others' feelings against their wishes (López-Pérez et al., 2017; Niven et al., 2019). These paternalistic empathic goals (Zaki, 2020) have been theorized to happen at the dyad level when an agent aims to worsen a target's emotional state. They may also operate at a broader level when agents are third-party observers of COVID-19 lockdown rule violations. In these instances, agents can impact transgressors' affect engaging in *Coronashaming*. In three studies, we measured British people's ($N_{\text{total}} = 767$) vulnerability (Study 1), age (Studies 2 and 3), and empathy towards COVID-19 victims and presented them with different scenarios depicting a breach of lockdown rules to assess the emotions participants wanted to inflict in transgressor, the strategies used, and whether they wanted stricter rules to be enforced. Results confirmed shame as the emotion preferred to induce in violators, with this preference linked to higher use of engagement strategies (i.e., to make transgressors understand what they did wrong). Finally, empathy was positively linked to higher affect worsening and wanting stricter rules to be enforced. This suggests that empathy towards potential victims of COVID-19 rules violations can motivate people to worsen the feelings of transgressors.

Keywords: interpersonal emotion regulation, affect worsening, regulation strategies, shame, COVID-19.

Coronashaming: Interpersonal Affect Worsening in Contexts of COVID-19 Rule Violations

Since the COVID-19 outbreak and lockdown across the globe, numerous media reports suggest that people have been using affect worsening techniques to impact others' behaviour. Indeed, breaking lockdown rules have been met with condemnation, intense negative emotional reactions, and even shaming of violators—leading to the emergence of a new term: *Coronashaming* (The Guardian, 18th April 2020).

Studying Coronashaming creates a unique opportunity to learn more about basic processes of interpersonal emotion regulation, that is, people's efforts to modulate or change others' emotions (Niven et al., 2009). Specifically, Coronashaming can help us better understand interpersonal affect worsening by looking at the emotions and strategies people may use for that purpose. Previous literature has suggested that experiencing empathy can motivate people to worsen others' feelings contravening their wishes to improve others' well-being, a phenomenon called paternalistic empathic goals (Zaki, 2020). For example, a parent can induce guilt in their child so that they stop misbehaving. So far, such paternalistic empathic goals have only been theorized (Zaki, 2020) and empirically shown (López-Pérez et al., 2017; Netzer et al., 2019) to operate in dyadic interactions in which a regulatory agent aims to worsen a target's emotional response. In the present paper, we suggest that this process may also happen in third parties where an observer may operate as a regulatory agent when observing situations in which transgressors breach rules that can potentially affect victims. Hence, the aim of this research was to investigate whether people engage in Coronashaming (i.e., using strategies to worsen others' emotions) when exposed to scenarios describing the breach of COVID-19 lockdown rules. Because interpersonal affect worsening can be guided by

empathic goals, we evaluated the role of empathy experienced towards potential victims of the crisis (Study 1), and victims of the specific rule-violating behaviours (Studies 2 and 3). In addition, we also assessed whether people would be willing for stricter rules to be enforced depending on their clinical vulnerability (Study 1) and age (Studies 2 and 3).

Empathy and Interpersonal Emotion Regulation

Empathy is a multidimensional construct that is comprised of cognitive (perspective-taking) and emotional (emotional experience congruent with the others' need) responses (Batson, 2011; Davis, 1983). The cognitive dimension of empathy, labelled *mentalizing* (Zaki, 2020) or *identification* (Reek et al., 2016) in interpersonal emotion regulation models, might serve as a precursor to interpersonal emotion regulation (Zaki & Williams, 2013). In fact, the experience of empathy towards a target has been argued to be an important driver when regulatory agents shape others' emotions (i.e., empathic goals; Zaki, 2020). Initial research highlighted that empathy in interpersonal emotion regulation is driven by the agent's hedonic considerations to improve the target's well-being (for a review see Batson, 2011). For example, experiencing empathy towards a potential victim led people to engage in more prosocial behaviour to improve the victim's well-being (e.g., by volunteering their time; Batson et al., 1997).

However, empathy may not always lead to interpersonal emotion regulation based on hedonic considerations. The emotion regulation literature suggested that agents could be driven by instrumental motives, that is, they may want to change others' emotions if those emotions may serve a specific purpose (Mauss & Tamir, 2014). For example, adults were motivated to hurt rivals' feelings if this would negatively affect

the rival's performance (Netzer et al., 2015). In addition, agents can also be motivated to worsen others' feelings if they believe that this can improve the target's well-being (López-Pérez et al., 2017). Zaki (2020) further proposed that these empathic goals (i.e., wanting to hurt others' feelings for their well-being) can be cooperative (if agent and target agree on the final desired emotional response) or paternalistic (if the agent's desired emotional state for the target does not necessarily match the target's desired emotional state). The current investigation focused on paternalistic empathic goals in which third party observers may want to worsen COVID-19 lockdown rule transgressors' emotions contravening their wishes to improve their and others' well-being. To that aim, we measured the specific emotions and strategies people may want to use for that purpose.

Interpersonal Emotions and Regulation Strategies in Coronashaming

Breaching COVID-19 lockdown rules can be conceptualized as a moral violation in which a transgressor's actions may put others at risk (Francis & McNabb, 2020). Moral violations are associated with moral emotions in violators, victims, and also unaffected bystanders which can influence behaviours by encouraging good and avoiding bad actions (Giner-Sorolla, 2018; Gummerum et al., 2020; Haidt, 2003). Shame is considered a moral emotion that emerges from public disapproval and that leads to negative evaluations of the self (Bland et al., 2020). This negative evaluation is based on counterfactual reasoning through which the person can imagine alternative actions that might have led to better outcomes (Niedenthal et al., 1994). Shame has been reported as the main emotional response felt by transgressors (van Kleef et al., 2015). On the other hand, sadness experienced by the violator, although not a moral emotion, can have important repercussions as it has enduring effects on behaviour and thoughts

(e.g., Clore & Storebeck, 2006; Forgas, 2007). For example, sadness has been associated with more cautious and socially constrained social responses (Forgas, 2002) as well as less selfish behaviour in economic games (Tan & Forgas, 2010). Sadness, moreover, is typically experienced in contexts of norm transgressions by transgressors (e.g., Kam & Bond, 2009). Hence, although little is known about the specific emotions people would like to inflict on transgressors of COVID-19 lockdown rules, shame and sadness seem to be prime candidates. We hypothesized, therefore, that shame would be the preferred emotion to induce in transgressors when guided by empathic motives. That is, wanting to induce interpersonal shame would be positively linked to participants' reports of empathy as the final goal is to point transgressors to alternative, more appropriate courses of actions (e.g., de Hooge et al., 2007; Gummerum et al., 2013).

In order to inflict negative emotions in others, agents can use two main strategies according to the Interpersonal Affect Classification (Niven et al., 2009): Engagement and rejection. Engagement strategies are aimed at explaining what the person did wrong so that by feeling bad the target can change their actions. Rejection strategies are designed to worsen others' emotions for the sake of deteriorating their mood (Niven et al., 2009). These two strategies are closely aligned to the possible motives in emotion regulation; while engagement strategies are linked to instrumental motives (i.e., worsening others' affect to improve other's well-being), rejection strategies are associated with hedonic considerations (i.e., worsening others' affect to hurt them). Although Coronashaming can be guided by both strategies, we hypothesised that people would have a preference for engagement strategies since they would be driven by empathic goals (i.e., worsening transgressors' emotions to improve their own and

others' well-being), which are instrumental in nature (López-Pérez et al., 2017; Zaki, 2020).

Empathy does not only have the potential to trigger affect worsening by making people engage in different regulation strategies, but also to motivate people to enforce stricter rules. In fact, empathy has been extensively linked to moral behaviour (Decety & Cowell, 2014), leading people to have a negative regard for those actions that harm others (Prinz, 2011). Furthermore, third parties engaged in higher punishment of norm transgressions when induced to empathic emotions (e.g., Dimitroff et al., 2020; Gummerum et al., 2016; Leliveld et al., 2012). Hence, empathy may act as a powerful driver to direct people's efforts to worsen others' emotions and to increase their motivation to comply with and impose (stricter) rules.

Vulnerability and Interpersonal Affect Worsening

Besides empathy, a person's vulnerability might play an important role in their decision to employ interpersonal affect worsening strategies for transgressors, particularly in the context of the COVID-19 pandemic. For example, individuals at higher risk of COVID-19 were more likely to react negatively towards those who violated the lockdown rules (The Lancet, 2020). The Health Belief Model (Becker & Rosenstock, 1975) provides theoretical support for this prediction: It suggests that people's readiness to adopt prevention measures is determined by their vulnerability and the perception of the severity of contracting an illness. In this sense, the perception of severity is heightened in those more vulnerable, which motivates them to take steps to reduce their risk. This is clearly evident in the extensive research on flu vaccinations which has shown how those more vulnerable of contracting flu are more likely to get vaccinated as compared to the general population (e.g., Gu & Sood, 2011; Mok et al.,

2006). Following these findings, one could expect that people more vulnerable of contracting COVID-19 would be more motivated to take steps (interpersonal affect worsening and enforcement of stricter rules) to reduce their risk by targeting the perpetrators.

The Present Research

Previous research has shown that people are motivated to engage in interpersonal affect worsening not only for hedonic (Niven et al., 2011) but instrumental reasons (Netzer et al., 2017), especially if making others feel bad can improve these people's long-term well-being (López-Pérez et al., 2017; Zaki, 2020). Being motivated by empathic goals (i.e., wanting to worsen others' feelings to improve others' well-being in the long-term), for instance, can lead people to worsen others' mood even when this contravenes the wishes of the target of the regulation (i.e., paternalistic empathic goals; Zaki, 2020). However, this has been hypothesized and shown so far in dyadic interactions only. Here, we extend this previous research on paternalistic empathic goals in interpersonal affect worsening from a dyadic to third-party situations where people observe transgressors breaching rules that can have a negative impact on their as well as others' well-being.

To study this, the COVID-19 lockdown presented an ideal context as some people were found breaching the rules when this not only implied a risk for themselves but for others. At the same time, some people were described in the media as engaging in Coronshaming (e.g., The Guardian, April 2020; The NY Times, 4th April 2020) aiming for these transgressors to feel bad for their actions. Hence, we designed three studies to better understand what emotions people would induce in potential transgressors, what strategies they may use to do that, whether they would be willing for

stricter rules to be enforced, and to what extent empathy towards potential victims may play a role.

Following findings from previous research, we hypothesized that when faced with rule-breaking scenarios, people would like others to feel mainly shame (e.g., Kam & Bond, 2009; Umphress et al., 2013). Additionally, we expected people to use mainly engagement rather than rejection strategies, since engagement strategies are linked to shaping others' behaviours (López-Pérez et al., 2017). We also explored whether different negative emotions (i.e., shame, sadness) might be differentially related to engagement and rejection strategies. As discussed above, shame has been conceptualized as a counterfactual emotion that helps to cognitively undo a negative situation and imagine a better alternative (Niedenthal et al., 1994). In case of rule violations, experiencing shame, similar to other negative counterfactual emotions (e.g., guilt, regret), might point transgressors to alternative, more appropriate actions (e.g., complying with rules; see Gummerum et al., 2013). Because of this counterfactual component, inducing shame in others might be associated with engagement strategies, whereas inducing sadness (not a counterfactual emotion) might be linked to rejection strategies. We also expected that higher empathy levels would trigger more affect worsening and enforcement of stricter rules (Dimittroff et al., 2020; López-Pérez et al., 2017). Finally, we expected vulnerability to be associated with higher interpersonal affect worsening and enforcement of stricter norms (e.g., Becker & Rosenstock 1975).

Study 1

This study was designed to investigate whether vulnerability would influence people's interpersonal affect worsening and enforcement of stricter rules when presented with breaches of COVID-19 lockdown rules. People were presented with two

different scenarios that described two of the most common social-distancing breaches reported during the first UK COVID-19 lockdown in the Spring of 2020: meeting non-household members in outdoor spaces (i.e., playing in a communal court outdoors with other non-household members during lockdown), and meeting non-household members indoors (i.e., attending a party with non-household members indoors during lockdown).

Method

Participants

We recruited participants via the online platform Prolific (<https://www.prolific.co>), which allows access to approximately 40,000 screened participants (Palan & Schitter, 2018). Research has shown that the quality of data collected via Prolific is equivalent to the one collected in behavioural laboratories, with Prolific samples being somewhat older and more diverse (Peer et al., 2017). Quality control of the data included possible deviations of estimated completion time. Participants received £2.52 for completing the survey, and we restricted participation to those who reside in the UK with English as their first language. Data was collected 22nd April 2020 when the UK was under the first COVID-19 lockdown.

The limited previous research on people's willingness to worsen others' affect identified that the effects of empathy and context on affect worsening ranged between $r = .24$ and $r = .62$ (Gummerum & López-Pérez, 2020; López-Pérez et al., 2017). An a-priori power analysis with G*Power (Faul et al., 2007) indicated that a sample size of 207 participants was needed to detect an effect size of $R^2 = .06$ with a power of .80 at $\alpha = .05$. Hence, 233 adults participated in the study (28% male, 70% female, 2% other)

with an age range between 18 to 74 ($M = 32.43$, $SD = 11.70$). Further demographic information can be found in Table 1.

Materials

Scenarios. Participants were presented, in randomised order, with two scenarios which were described in the first person so that the participant could see themselves as part of the story (see Appendix A). One scenario described a situation in which a group of people do not adhere to the lockdown rules (issued by the UK government) by playing basketball in the outside communal court with people from other households. Another scenario described a breach of lockdown rules due to an illegal party in an apartment.

Interpersonal Emotion Regulation (taken from López-Pérez et al., 2017; Netzer et al., 2015). Participants' willingness to worsen other people's emotions was assessed by asking them to what extent they wanted others in each scenario to feel sad (i.e., sad and upset; basketball game $\alpha = .78$; illegal party $\alpha = .74$; average of both scenarios $\alpha = .79$), ashamed (i.e., ashamed and embarrassed; basketball game $\alpha = .88$; illegal party $\alpha = .90$, average of both scenarios $\alpha = .89$) on a 7-point Likert scale ranging from 1 = Not at all to 7 = Extremely.

Interpersonal Regulation Strategies (adapted from Niven et al., 2011).

Participants reported to what extent they wanted to use engagement (i.e., those aimed at making others understand what they did wrong; e.g., I would highlight the consequences of their actions; basketball game $\alpha = .66$; illegal party $\alpha = .82$; average of both scenarios $\alpha = .84$) or rejection strategies (i.e., those aimed at making others feel bad for the sake of it; e.g., I would criticize them; basketball game $\alpha = .60$; illegal party $\alpha =$

.84; average of both scenarios $\alpha = .83$) when aiming to make others feel worse in each scenario on a 7-point Likert scale ranging from 1 = Not at all to 7 = Extremely.

Enforcement of Stricter Rules. Participants indicated to what extent they wanted the authorities to enforce stricter rules after each scenario on a 7-point Likert scale ranging from 1 = Not at all to 7 = Extremely (average of both scenarios $\alpha = .72$).

Empathy (Empathic concern subscale from the Empathic Response Scale, Batson et al., 1987). Participants reported to what extent they felt concern, sympathy, and compassion for other people affected by COVID-19 ($\alpha = .78$) on a 7-point Likert scale ranging from 1 = Not at all to 7 = Extremely.

Vulnerability. Participants reported to what extent they belonged to any of the vulnerable groups identified by the UK National Health System (NHS) (e.g., pregnant women, people who had an organ transplant, serious heart condition, etc.). In the current sample, 79% did not present any vulnerability and 21% reported belonging to a vulnerable category.

Procedure

Ethical approval was obtained at one of the authors' institution (protocol number 56352). After reading the brief and signing the consent form, participants were presented with the different scenarios in random order set up automatically by Qualtrics. After each scenario, participants indicated how they would like rule violators in the story to feel and the strategies they would use for making them feel worse. Additionally, for each scenario, participants also indicated to what extent they wanted the authorities to enforce stricter lockdown rules. After the scenarios, participants filled out a short questionnaire to report whether they experienced empathy towards those affected by

COVID-19, different demographic questions, and whether they belonged to any vulnerability group. Finally, participants were debriefed. Data is available in Open Science Framework [link to be added upon acceptance for publication].

Data Analysis Plan

First, we averaged the responses provided to the two scenarios used in the study. Next, we conducted a series of repeated-measures ANOVAs with the target variable (interpersonal emotions, regulation strategies, etc.) as within-subject factor and vulnerability (no, yes) as between-subject factor. Correlation analyses were conducted to evaluate whether interpersonal negative emotions were linked to different strategies, empathy, and vulnerability.

Results and Discussion

Interpersonal Emotion Regulation

Results showed a main effect of emotion ($F(1, 212) = 186.56, p < .001, \eta^2_p = .47$) with participants wanting transgressors to feel significantly more shame than sadness ($d = 2.06, SE = .15, p < .001$; Table 2). There was no main effect of vulnerability ($F(1, 212) = 3.70, p = .06, \eta^2_p = .02$) or a significant emotion \times vulnerability interaction ($F(1, 207) = 1.11, p = .29, \eta^2_p = .005$).

Interpersonal Regulation Strategies

Results showed a main effect of strategies ($F(1,207) = 254.49, p < .001, \eta^2_p = .55$) with people having a preference towards engagement compared to rejection strategies ($d = 2.30, SE = .14, p < .001$). The main effect of vulnerability ($F(1,206) =$

1.09, $p = .30$, $\eta^2_p = .005$) and the strategies \times vulnerability interaction ($F(1, 207) = 1.29$, $p = .26$, $\eta^2_p = .005$) were not significant (Table 2).

Empathy and Enforcing Stricter Rules

Overall, participants were motivated for authorities to enforce stricter rules but there were no significant differences between those clinically vulnerable and those who were not ($t(182) = -.64$, $p = .52$; Table 2). Participants also expressed high levels of empathy toward those who might be affected by COVID-19 but there were no differences yet again between those clinically vulnerable and those who were not ($t(212) = -1.61$, $p = .11$; Table 2).

Link between Interpersonal Emotion Regulation Variables, Enforcement of Stricter Rules, and Empathy

Because the previous analyses indicated no significant effects of vulnerability, we analysed the associations between variables for the whole sample. As shown in Table 3, wanting transgressors to feel shame and sadness was positively linked with the use of both engagement and rejection strategies and wanting stricter rules to be enforced. Given that we formulated specific hypothesis in regards to the links between interpersonal emotions and strategies, we conducted a Fisher's r to z transformation to see whether the correlation coefficients were significantly different. Results showed that the link between interpersonal shame and engagement strategies was significantly higher than for interpersonal sadness ($Z = -2.449$, $p = .007$). In addition, the link between interpersonal sadness and rejection strategies was significantly higher than for interpersonal shame, as hypothesized ($Z = -1.99$, $p = .02$). Furthermore, correlation analyses showed that only interpersonal shame was positively linked with experiencing

empathy towards potential COVID-19 victims and vulnerability. In addition, empathy was positively linked with engagement strategies and wanting stricter rules to be enforced. Both engagement and rejection strategies were positively linked with wanting stricter rules to be enforced (Table 3).

Overall, most of our hypotheses were supported, with people expressing a desire for transgressors to experience shame and having a preference for engagement regulation strategies. Participants' empathy for potential victims of COVID-19 was only linked to interpersonal shame but not sadness. This is in line with previous theories highlighting that empathic goals can lead to instrumental affect worsening (Zaki, 2020). This is also supported by the fact that the correlation between interpersonal shame and engagement strategies was significantly higher than for rejection strategies, suggesting that wanting transgressors to experience shame has the ultimate goal of pointing to alternative courses of actions which is inherent in the counterfactual nature of shame (Niedenthal et al., 1994).

Although vulnerability was not associated with higher affect worsening, it was positively linked with the experience of empathy towards potential victims of COVID-19. It might be that vulnerable people can identify more easily with those potential victims since identification has been linked to higher empathic responses (Batson et al., 2005). Finally, empathy was also associated with wanting stricter rules to be enforced. This supports previous theories highlighting that empathy may not only lead to hedonic (positive) but to counter-hedonic (negative) outcomes should these outcomes lead to an ultimate goal of improving others' long-term well-being (Zaki, 2020).

Study 2

Study 1 evaluated the role of vulnerability by asking people to indicate whether they fell in any of COVID-vulnerability categories indicated by the UK government (<https://www.nidirect.gov.uk/articles/coronavirus-covid-19-definitions-clinically-extremely-vulnerable-and-vulnerable>). However, using this categorization of vulnerability is quite broad and may include people from very different age groups (e.g., people over 65 or young people with chronic health conditions). Hence, in Study 2, we considered the role of age, since different age groups displayed different behaviours during the pandemic. Young people were significantly less compliant with COVID-19 measures than older adults (e.g., Nivette et al., 2021). At the same time, older adults are considered to be more vulnerable to falling severely ill with and die from COVID-19 (Esteve et al., 2020) than younger adults. We expected that people would be more motivated to take steps to reduce their risk (e.g., Becker & Rosenstock, 1975) by engaging in higher interpersonal affect worsening and enforcement of stricter norms with increasing age. Finally, regarding strategies, we expected engagement strategies to be more frequently used irrespective of age with engagement strategies more linked to wanting to induce more shame and rejection strategies linked to wanting to induce more sadness (Nidenthal et al., 1994).

Method

Participants

We recruited participants via the online platform Prolific (<https://www.prolific.com>). They were UK residents with English as their first language and received £2.52 for completing the survey. Data was collected 15th May 2020 when the UK was still under the first lockdown. An a-priori power analysis with G*Power (Faul et al., 2007) indicated that a sample size of 174 participants was needed to detect

and effects size of $f = .10$ (based on López-Pérez et al., 2017) with a power of .80 at $\alpha = .05$. We recruited 235 participants ($M = 50.51$, $SD = 19.94$; age range 18-82; 36% men and 63% women). More demographic information can be found in Table 1.

Procedure

Participants completed the study online after signing a consent form. Participants were presented with the two lockdown transgression scenarios used in the previous study (basketball game and illegal party). They were asked to answer the same measures for interpersonal emotion regulation, regulation strategies, enforcement of stricter rules, and empathy. However, in this study participants were asked to report their empathy towards the victims in each scenario rather than empathy generally towards people who might be affected by COVID-19 (reliabilities of the different measures can be found in supplementary materials).

Data Analysis Plan

We conducted a series of repeated-measures ANCOVAs with the specific variable (i.e., interpersonal emotions, regulation strategies, etc.) as within-subject factor and age as a covariate. Additionally, a series of correlation analyses were conducted to evaluate whether interpersonal emotions were linked to the regulation strategies, empathy towards the victims described in the scenario, enforcement of stricter rules, and age.

Results and Discussion

Interpersonal Emotion Regulation

Results showed a main effect of emotion ($F(1, 228) = 25.60, p < .001, \eta^2_p = .10$) with participants wanting transgressors to feel significantly more shame than sadness ($d = 1.68, SE = .11, p < .001$). There was also a main effect of age ($F(1, 228) = 5.64, p = .02, \eta^2_p = .02$) but there was no significant emotion \times age interaction ($F(1, 228) = .56, p = .46, \eta^2_p = .002$).

Interpersonal Regulation Strategies

Results showed a main effect of strategies ($F(1,230) = 55.86, p < .001, \eta^2_p = .20$) with people having a preference towards engagement as compared to rejection strategies ($d = 1.85, SE = .11, p < .001$). There was no main effect of age ($F(1,230) = .05, p = .83, \eta^2_p = .001$) nor a significant strategies \times age interaction ($F(1,230) = 2.42, p = .12, \eta^2_p = .01$).

Link between Interpersonal Emotion Regulation Variables, Enforcement of Stricter Rules, Empathy and Age

Wanting transgressors to feel shame and sadness was positively linked with the use of both engagement and rejection strategies, wanting stricter rules to be enforced, and higher empathy towards potential victims of COVID-19 in the scenarios. Fisher's r to z transformations showed that the links between interpersonal shame and engagement strategies ($Z = -1.71, p = .04$) and empathy ($Z = 2.185, p = .01$) were significantly higher than for interpersonal sadness. Only interpersonal shame was positively linked with age. In addition, empathy towards potential victims of the scenarios was only positively linked with the use of engagement strategies but not rejection strategies or wanting stricter rules to be enforced (Table 4).

Study 2's results, hence, confirmed some of the findings of Study 1. There was a higher preference for inducing interpersonal shame over sadness to transgressors and using engagement strategies. In addition, we confirmed the link between interpersonal shame, empathy, and engagement strategies. Taken together, our data provides further support to previous research linking empathy and interpersonal affect worsening (López-Pérez et al., 2017) as well as theories highlighting the role of empathic emotion goals (Zaki, 2020).

Study 3

In the previous two studies, we evaluated people's vulnerability and age and assessed to what extent they felt empathy toward the victims in general (Study 1) and the potential victims of the scenarios (Study 2). Study 3 examined whether we could obtain differences in affect worsening and enforcement of stricter rules by manipulating people's perspective-taking directly. Perspective-taking instructions have been extensively used to alter people's empathic emotional experiences (e.g., Lamm et al., 2007). Especially other-oriented perspective-taking was associated with people experiencing higher empathy compared to those in an objective perspective-taking condition (Batson et al., 1997). In line with these findings, other-oriented perspective-taking led participants to experience more empathy and being more willing to engage in altruistic interpersonal affect worsening to ensure others' long-term well-being (López-Pérez et al., 2017). Based on these results, we tested whether those who were induced to other-oriented perspective-taking would report higher empathy for the ostensible COVID-19 victims in each scenario, would be more willing to engage in affect worsening, and would enforce stricter rules than participants in an objective perspective-taking condition. As in Study 2, we measured age to evaluate whether this

may affect the results given that prior research reported important differences between age groups in terms of compliance.

Method

Participants

We recruited participants via the online platform Prolific (<https://www.prolific.com>); they were UK residents with English as their first language and received £2.52 for completing the survey. Data were collected 9th July 2020, five days after lifting some of the first lockdown measures in the UK. An a-priori power analysis with G*Power (Faul et al., 2007) indicated that a sample of 256 participants was needed to detect an effect size of $f = .10$ with a power of .80 at $\alpha = .05$. We recruited 299 participants who were randomly assigned into two conditions: 145 adults were assigned to the objective condition ($M = 50.45$ years, $SD = 19.89$; age range 18-85; 35% men and 65% women) and 154 adults were allocated to the other-oriented perspective-taking condition ($M = 50.60$ years, $SD = 19.78$; age range 18-81; 34% men and 66% women). Additional demographic information can be found in Table 1.

Procedure

Measures and application were identical (reliabilities can be found in supplementary material) to Study 2 but participants were randomly allocated to two different experimental conditions before being presented with the scenarios and the different questions: objective (“Remain detached and objective about how people who have contracted the COVID-19 virus might feel because of other people’s behaviour in that situation) or other-oriented perspective-taking (“Imagine how the people who have contracted the COVID-19 virus might feel because of other people’s behaviour in that

situation”). Similar instructions have been previously used in research to alter participants’ emotional response (e.g., Batson et al., 1987). Objective instructions are aimed at participants to feel emotionally detached whereas other-oriented instructions are aimed at participants to feel more empathy towards the victim depicted in a scenario (e.g., Batson et al., 1997).

Data Analysis Plan

First, we evaluated whether the perspective taking instructions worked by evaluating possible differences in empathy across conditions. Afterwards, to evaluate differences across instructions we conducted a series of repeated measures ANCOVAs with the target variable (i.e., interpersonal emotions, regulation strategies, etc.) as within-subject factor and age as covariate. Finally, we conducted a series of correlations to evaluate the link between the study variables.

Results and Discussion

Perspective-taking Manipulation Check

First, we evaluated whether participants differed in their levels of empathy depending on the perspective-taking instructions received. The results of the ANCOVA showed that neither the effect of instructions ($F(1, 292) = .79, p = .38, \eta^2_p = .003$) nor age ($F(3, 299) = 2.63, p = .11, \eta^2_p = .009$) were significant. Overall, participants reported medium-high empathy values (Table 2). This seems to suggest that participants could not remain detached from the situations described as it might have been too personally relevant. In addition, we also evaluated whether the perspective-taking instructions had an effect in the other variables in the study but there were non-significant differences (interpersonal sadness, $t(316) = -1.34, p = .18$; interpersonal

shame, $t(316) = -.39, p = .70$; engagement strategies, $t(316) = .87, p = .39$; rejection strategies, $t(316) = 1.003, p = .32$; enforcement of stricter rules, $t(316) = 1.20, p = .23$).

Given that the perspective-taking instructions did not produce the desired effects, we decided to drop this factor from further analyses.

Interpersonal Emotion Regulation

Results showed a significant main effect of emotions ($F(1, 290) = 28.89, p < .001, \eta^2_p = .09$) with participants wanting transgressors to experience more shame than sadness ($d = 1.67, SE = .10, p < .001$). There was no main effect of age ($F(1, 290) = 3.95, p = .06, \eta^2_p = .01$) nor a significant emotions \times age interaction ($F(1, 290) = .30, p = .58, \eta^2_p = .001$).

Interpersonal Regulation Strategies

Results showed a main effect of strategies ($F(1, 289) = 62.96, p < .001, \eta^2_p = .18$) with people having a preference towards engagement as compared to rejection strategies ($d = 1.96, SE = .09, p < .001$). No significant effects of age ($F(1, 289) = .42, p = .52, \eta^2_p = .001$) or strategies \times age interaction ($F(1, 289) = .004, p = .95, \eta^2_p = .001$) emerged.

Link between Interpersonal Emotion Regulation Variables, Enforcement of Stricter Rules, Empathy and Age

Correlation analyses showed that empathy towards the victims of the rule breaching behaviours was positively linked with wanting to induce more sadness and shame in transgressors, higher use of engagement and rejection strategies, and wanting stricter rules to be enforced. Both interpersonal shame and sadness were positively linked with the strategies of engagement and rejection, as well as wanting stricter rules to be enforced. Fisher's r to z transformations showed that interpersonal shame was

more highly linked to empathy ($Z = -2.79, p = .003$) and to engagement strategies ($Z = 2.55, p = .005$) than interpersonal sadness. In addition, only interpersonal shame was positively linked to age (Table 5).

Although the perspective-taking manipulations did not impact participants' levels of empathy (i.e., reduction of empathy in the objective condition), participants' empathy towards victims affected by transgressions in the scenarios was linked to wanting to induce more shame in transgressors and use of engagement strategies. This pattern was consistent with results from Studies 1 and 2, giving support to empathy as a driver for affect worsening with the ultimate goal to improve others' well-being (Zaki, 2020).

General Discussion

Previous research has shown that adults worsened others' mood to promote their long-term well-being (López-Pérez et al., 2017; Niven et al., 2019). This process has been demonstrated at the dyad level; it has been suggested to be due to agents' empathic goals that may represent a mismatch between what the agent wants the target to feel and what the target actually wants to feel (i.e., paternalistic empathic goals, Zaki, 2020). The aim of the current research was to show that these processes may operate beyond the dyad level when people are third-party observers of rule transgressions that can have an impact in people's overall well-being. In addition, our research gives insight into the psychological processes that underlie Coronashaming, a behaviour that emerged as a result of breaches of COVID-19 lockdown rules.

Across three studies, we consistently found that when participants were presented with scenarios describing a breach of COVID-19 lockdown rules, they

wanted transgressors to experience shame and sadness, showing they were clearly motivated to engage in interpersonal affect worsening (Niven et al., 2009). In addition, participants indicated a higher preference for engagement strategies (i.e., those aimed at teaching the transgressor what they did wrong) over rejection strategies (i.e., those aimed at hurting the transgressors' feelings for the sake of it). Importantly, empathy experienced for the COVID-19 victims in general (Study 1) and those affected by the rule-breaching behaviours described in the scenarios (Studies 2 and 3) was linked to wanting to induce more shame and sadness in transgressors, as well as having stricter rules enforced. Finally, only interpersonal shame was consistently linked with the use of engagement strategies.

Empathy and Interpersonal Affect Worsening

In the three studies, empathy towards COVID-19 victims was positively associated with wanting transgressors to experience shame and sadness. Although this is in line with previous research showing that adults are motivated to worsen others' feelings (Netzer et al., 2015; Niven et al., 2019) it also illustrates a novel mechanism not previously discussed in the literature. Zaki (2020) argued that agents experiencing empathy towards targets (dyadic interactions) could make targets feel worse even if this contravened the target's desired emotional response—an idea that was empirically tested in other research (López-Pérez et al., 2017). However, the current findings showed that people were motivated to induce negative feelings not in the people towards whom they experience empathy (i.e., victims) but towards transgressors. This indicates that interpersonal emotion regulation may not only operate between an agent and a target but it might be a process that emerges in more complex triadic social interactions.

Further analyses revealed that the link between empathy and interpersonal shame was higher than the one between empathy and interpersonal sadness. This was in line with our hypotheses. Participants were presented with scenarios describing a breach of COVID-19 lockdown rules which can be conceptualized as moral violation which triggers moral emotions such as shame (Giner-Sorolla, 2018). In addition, both empathy and interpersonal shame were positively linked to engagement strategies (i.e., those aimed at pointing out to transgressors what they did wrong) rather than rejection strategies (i.e., those aimed at hurting the transgressors' feelings for the sake of it). This link suggests that wanting transgressors to experience shame is motivated by wanting them to understand the wrongdoing of their actions. This fits with other work suggesting that experiencing shame motivates people to engage in a negative self evaluation (Bland et al., 2020) as a consequence of thinking in more desirable alternative or counterfactual actions (Niedenthal et al., 1994). In line with instrumental accounts of emotion regulation (Mauss & Tamir, 2014), people's interpersonal emotion regulation is not only driven by hedonic considerations (i.e., wanting to improve or worsen others' feelings for the sake of it) but instrumental reasons such as wanting to improve the target's well-being, even if this involves worsening the target's feelings (López-Pérez et al., 2017; Zaki, 2020).

Enforcement of Stricter Rules

Results of all three studies also showed that participants were willing to accept the enforcement of stricter COVID-19 prevention rules to preserve people's well-being. This agreement with having stricter rules enforced was positively linked to empathy towards victims of COVID-19 across the three studies. This is not surprising given that empathy has been linked to moral behaviour (Decey & Cowell, 2014) and higher

punishment rates when being a third-party observer of norm transgressions (Dimitroff et al., 2020; Gummerum et al., 2016). Notably, the enforcement of stricter rules was also linked to wanting to induce more shame in the perpetrators. This result is in line with previous research which found a positive association between shame and sanctions to ensure norm fulfillment (e.g., Nelissen & Zeelenberg, 2009). Furthermore, shame can be an important deterrent to ensure compliance (e.g., Allen et al., 2017). At the applied level, these findings suggest that when aiming to promote or applying stricter COVID-19 prevention rules, the presentation of victims of COVID-19 associated with specific rule-breaching behaviours can be useful to ensure a higher acceptance of the rules among people.

Vulnerability and Age

Vulnerable individuals were expected to exhibit a heightened perception of risk and as a consequence potentially be more motivated to take actions to reduce risks (Becker & Rosenstock, 1975), or in other words, to engage in more Coronashaming or interpersonal affect worsening. In Study 1, our data indicated that clinically vulnerable participants wanted to induce more shame in transgressors. In Studies 2 and 3, age was positively linked with interpersonal shame. The obtained results suggest that vulnerability (either assessed or potentially inferred through age) might motivate people to reduce risks (e.g., Gu & Sood, 2011). The positive correlation between interpersonal shame and age was to be expected because older adults were found to be more compliant with COVID-19 rules (Nivette et al., 2021), which may make them more sensitive to rule transgressions and, as a consequence, more willing to engage in Coronashaming. At the same time, older people might be more aware of their vulnerability as they have higher risk of severe COVID-19 symptoms (Esteve et al.,

2021). It is important to note that both vulnerability and age were linked with interpersonal shame rather than sadness. The nature of the scenarios describing a moral situation may trigger this preference for shame (Giner-Sorolla, 2018) over sadness to be induced in potential transgressors, given that shame has the potential to signal alternative, potentially more beneficial, actions (Niedenthal et al., 1994).

Limitations and Future Research

To our knowledge, this research is among the first that systematically investigated the phenomenon of Coronashaming and the role of paternalistic empathy in triadic interactions. Yet, it is not without limitations. First, participants were presented with hypothetical scenarios rather than observing actual rule violations. Given the restrictions associated with the first full lockdown in the UK we deemed scenarios more appropriate rather than asking about observed violations which might have been very limited due to the restrictions in place. However, we acknowledge that the use of the same scenarios across studies might not be representative of all the possible breaches (Westfall et al., 2015). In addition, we did not include any non-COVID-19 related scenario so we cannot rule out whether interpersonal affect worsening may happen in other rule breaching scenarios. Hence, future research may consider using methods other than scenarios such as ecologically momentary assessments (EMA), which are more likely to capture people's reactions and actions towards actual events in their lives. Future research might also investigate the experience of empathy towards rule transgressors (instead of victims) and how this can potentially shape interpersonal affect worsening

Second, we did not control for people's personal compliance. Previous literature has found that lower personal compliance with COVID-19 measures may also

encourage others to take less health precautions such as not maintaining social distancing or not wearing a face mask (Clark et al., 2020). Hence, lower personal compliance might lead to lower interpersonal affect worsening and less enforcement of stricter rules. Third, although we assessed vulnerability in Study 1, we only inferred it in Studies 2 and 3 through age. Although age has been associated with heightened vulnerability to COVID-19 (Esteve et al., 2021) it might be quite limited in its representation of vulnerability. Future research should compare vulnerable and non-clinically vulnerable individuals to see whether the obtained findings are supported and might be potentially mediated by the individual perception of risk.

Finally, we did not control for people's own personal emotional responses. It might be that those who felt more negative emotions after reading the scenarios might be more prone to engage in affect worsening and enforcement of stricter rules. Previous research has found that personal incidental anger can lead people to punish more in an experimental third-party situation (Gummerum et al., 2016; van Doorn, 2018). Hence, future research should evaluate people's own personal emotional experiences.

Conclusions

Across three studies, we found that people were motivated to worsen transgressors' emotions and enforce stricter rules when being presented with situations in which people were breaching COVID-19 rules. At a theoretical level, these findings suggest that empathic goals may not only lead to affect worsening in targets with whom agents experience empathy but in third-party situations in which agents are observers of rule transgressions. This expands the possible social dynamics in which interpersonal affect worsening may happen, beyond dyadic interactions as theorized and found previously. At the same time, it has shown that experiencing empathy towards a third

person (victims of COVID-19) can motivate affect worsening in a different person (transgressors). Taken together, these findings implicate that the links between empathy and interpersonal emotion regulation are more complex than initially thought.

At an applied level, our results reveal that participants are highly motivated to engage in coronshaming or interpersonal affect worsening when this can restore people's general well-being. These coronshaming episodes involve altering the target's (transgressors') emotions against their wishes. This can potentially lead to higher compliance from transgressors, but also potentially to higher societal conflict if transgressors fight back. Hence, these findings suggest that empathy may not only be a positive emotion but an emotion with a dark side that can motivate agents to worsen transgressors' feelings (i.e., paternalistic emotion goals) and in turn, fuel social conflict.

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Table 1

Samples Demographics Studies 1, 2 and 3

	Study 1	Study 2	Study 3
Ethnicity	86% Caucasian, 1.2% Chinese, 1.7% West Asian 3.4% South Asian 2.6% African, 5.1% Other	3.2% Asian, 1.6% African, 92% Caucasian, 2.8% Other.	Objective condition: 2.5% Asian, 0.6% African, 96% Caucasian Other-oriented perspective-taking condition: 2.5% Asian, 0.6% African, 95% Caucasian, 1.8% Other.
Education	1% did not have any qualification, 12% GSCE's, 21% A levels /vocational training, 47% university degree, 19% masters or higher.	1.2% no qualification, 17% GSCE, 28% A levels or vocational training, 9% diploma, 30% degree, and 15% postgraduate studies.	Objective condition: 1.3% no qualification, 16% GSCE, 32% A levels or vocational training, 9% diploma, 30% degree, and 13% postgraduate studies Other-oriented perspective-taking condition:

3% no qualification, 15% GSCE, 30% A
levels or vocational training, 6% diploma,
31% degree, and 16% postgraduate studies

Table 2*Mean and Standard Deviation (SD) of Main Measures in Studies 1, 2 and 3*

	Study 1		Study 2	Study 3
	Vulnerable	Non-vulnerable		
Interpersonal Sadness	3.94 (1.51)	3.38 (1.49)	4.18 (1.66)	4.36 (1.64)
Interpersonal Shame	5.84 (1.68)	5.61 (1.51)	5.82 (1.45)	5.89 (1.44)
Engagement strategies	4.69 (1.92)	4.70 (1.70)	4.60 (1.95)	4.98 (1.72)
Rejection strategies	2.39 (1.29)	2.62 (1.37)	2.79 (1.46)	3.01 (1.44)
Enforcing stricter rules	4.62 (1.24)	4.47 (1.23)	5.07 (1.52)	4.50 (1.41)
Empathy	6.46 (.72)	6.23 (.88)	5.50 (1.34)	5.48 (1.38)

Table 3*Correlation between Measures in Study 1*

	2	3	4	5	6	7
1. Interpersonal Sadness	.27**	.17*	.37**	.30**	.03	.06
2. Interpersonal Shame		.38**	.20**	.36**	.15*	.15*
3. Engagement strategies			.49**	.45**	.29**	-.005
4. Rejection strategies				.19	.04	-.07
5. Enforcing stricter rules					.34**	.05
6. Empathy						.11
7. Vulnerability						

Note. ** $p < .01$; * $p < .05$

Table 4*Correlation between Measures in Study 2*

	2	3	4	5	6	7
1. Interpersonal Sadness	.45**	.27**	.37**	.21**	.24**	.09
2. Interpersonal Shame		.41**	.34**	.35**	.42**	.18**
3. Engagement strategies			.53**	.31**	.34**	-.04
4. Rejection strategies				.18**	.12	.05
5. Enforcing stricter rules					.36**	.10
6. Empathy						-.02
7. Age						

Note. ** $p < .01$; * $p < .05$

Table 5*Correlation between Measures in Study 3*

	2	3	4	5	6	7
1. Interpersonal Sadness	.37**	.25**	.34**	.18**	.29**	.08
2. Interpersonal Shame		.43**	.31**	.30**	.48**	.13*
3. Engagement strategies			.55**	.29**	.33**	.03
4. Rejection strategies				.16**	.14*	.04
5. Enforcing stricter rules					.34**	-.01
6. Empathy						.10
7. Age						

Note. ** $p < .01$; * $p < .05$

Appendix A

Scenarios Used in the Studies

Basketball Game in the Communal Court

To deal with the COVID-19 situation, the government of your country has declared a lock-down. This means that people should stay at home unless they are key workers or going shopping for food or medication. Furthermore, people should not gather in groups of people they are not sharing a household with (e.g., family members, flat shares). It's a beautiful and sunny day, and you are sitting on your balcony. From your balcony, you see a group of people are playing basketball on the communal court in the park nearby.

Illegal Party

To deal with the COVID-19 situation, the government of your country has declared a lock-down. This means that people should stay at home unless they are key workers or going shopping for food or medication. Furthermore, people should not gather in groups of people they are not sharing a household with (e.g., family members, flat shares). You live in a building with many flats. Since the lock-down with people staying at and working from home your building is quite busy during the day. However, you hear from one of the flats loud conversations from many people and loud music.