

Anger and Fear Differently Predict Punishment Acceptance during COVID-19

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Summary We investigated emotions and acceptance of punishment in the context of COVID-19, and found that anger contributes more to non-physical punishment acceptance, and fear contributes more to physical punishment acceptance. These findings provide evidence for a situation-dependent model of diverse forms of punishment acceptance, directed by fear and anger.

Keywords · fear · anger · punishment · COVID-19-survey · mTurk.

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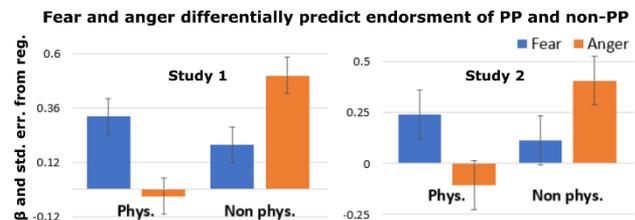
Introduction Prior work suggests that discrete emotions play a significant role in punishment acceptance (e.g., Karstedt et al. 2011; Ellsworth et Ross, 1983; Johnson, 2009). Prior studies have shown mixed results. Some work has reported a positive relationship between fear of crime and punitiveness (e.g., Costelloe et al., 2009), whereas other reported little to no effect in support of punishment acceptance (e.g., Stinchcombe et al., 1980). One of the reasons might be that studies have failed to control for negative valence; another reason might be that the relationship between discrete emotions and punishment acceptance depends on the form of punishment – i.e., physical, non-physical. Here we investigate these issues in the context of COVID-19 pandemic, which provides a unique opportunity to examine the relationship between anger, fear, and punishment acceptance. The media has reported multiple episodes of aggressive behaviors triggered by mask-wearing disputes, hence it is of interest to investigate people's endorsement of punishment toward people who refuse to comply with the precautionary measures recommended by the health experts, and the role that anger and fear play in such endorsement.

Aims In 2 studies (st.1 - exploratory, st.2 - confirmatory), we tested whether fear and anger differently predict punishment acceptance for physical (PP) vs non-physical punishments (nPP) in the context of COVID-19 pandemic.

Methods Participants (N = 218) were collected from MTurk (excluding those who completed < 90% of the survey; final sample: 78F, 2 non-binary, 130M). We followed up after 2 months with the same MTurk participants from the 1st study. 121 subjects of the original sample enrolled in the 2nd study. Participants read one of two scenarios in which a man is self-aware of having a mild case of COVID-19 and walks without a mask within 6 ft of the participant or of another person. Participants rated their emotional responses on 5-point rating scales ("not at all" to "a great deal"), and they rated how acceptable four punishing actions against the man

would be on 7-point scales, 2 PP (throwing a rock, tasing) and 2 nPP (yelling, fining).

Results We expected fear and anger to be moderately positively correlated suggesting a common component of negative valence (st.1: $r=.60$; st.2: $r=.68$, $ps<.01$). Thus, we conducted multiple regressions to identify unique contributions of fear and anger in predicting PP and nPP. The betas are presented in Fig.1 and illustrate that anger predicts nPP while controlling for fear, and fear predicts PP while controlling for anger. Fear also significantly predicts nPP, albeit less so than anger. In st.1 for PP ($F(2, 209)= 10.62$, $p < .001$, $r^2=.093$), only fear was significant ($\beta = .32$, $t(2, 209)= 3.89$, $p < .001$) (anger: $\beta = -.03$, $p = .73$). Whereas, for nPP, both fear ($\beta = .20$, $t(2, 209)= 2.94$, $p = .004$) and anger ($\beta = .50$, $t(2, 209)= 7.55$, $p < .001$) were significant ($F(2, 209)= 72.43$, $p < .001$, $r^2 = .41$), with anger giving the highest contribution. In st.2 for PP ($F(2, 117)= 2.03$, $p = .068$, $r^2 = .034$), only fear was significant ($\beta = .24$, $t(2, 117)= 1.91$, $p = .029$) (anger: $\beta = -.11$, $p = .20$). Whereas, for nPP ($F(2, 117)= 18.13$, $p < .001$, $r^2 = .24$), only anger ($\beta = .41$, $t(2, 117)= 3.64$, $p < .001$) was significant (fear: $\beta = .11$, $p = .16$). We found a weak to non-existent correlation between PP and anger (st.1: $r = .16$; st.2: $r = .06$) and a weak to moderate correlation with fear (st.1: $r = .30$; st.2: $r = .17$). nPP moderately correlated with anger (st.1: $r = .62$; st.2: $r = .48$) and fear (st.1: $r = .50$; st.2: $r = .39$).



Conclusions Our findings provide support for a model with distinct forms of punishment acceptance for violating COVID-19 safety rules, driven by anger and fear. Anger was found to contribute more to non-physical punishment, and fear to physical punishment.

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