



Fairness and forgiveness: Effects of priming justice depend on justice beliefs

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Accepted: 29 September 2020 / Published online: 20 October 2020
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Abstract

Thinking about justice can enhance or impede forgiveness of others. In this study, we show that these effects crucially depend on tendencies to believe in justice. We assessed beliefs about distributive and procedural justice for self and others among university students from the Midwestern United States. We then primed participants to think about distributive or procedural justice, either for self or others. We measured general forgiveness attitudes, as well as motivations to forgive a past transgression. Among participants who strongly believed in distributive justice for others, forgiveness was attenuated by thinking about distributive justice for others (*congruence-inhibition*), but accentuated by thinking about distributive justice for self, or procedural justice for others (*incongruence-facilitation*). Among participants who strongly believed in procedural justice for others, forgiveness was accentuated by thinking about procedural justice for self or distributive justice for others (*incongruence-facilitation*). Results highlight contextualized rather than rote effects of justice on forgiveness.

Keywords Justice beliefs · Forgiveness · Distributive justice · Procedural justice · Personal justice · General justice · Social values · Belief in a just world

Although individuals may seek revenge for wrongdoing, conflict can also be resolved through forgiveness – a social transformation that occurs when a victim converts negative responses towards a transgressor into positive responses (McCullough, Worthington and Rachal, 1997). Instead of retaliating, punishing, or demanding compensation, forgiveness addresses wrongdoing with benevolence, which can confer health and social benefit to both victims and transgressors (e.g., Brown, 2003; McCullough, Root, Tabak and Witvliet, 2009; Seawell, Toussaint and Cheadle, 2014). Given this potential, justice scholars have maintained interest in better understanding the psychological underpinnings of forgiveness (Exline, Worthington Jr., Hill and McCullough, 2003; Strelan, 2018).

Past research shows that justice cognitions can be both positively and negatively associated with forgiveness (Lucas, Young, Zhdanova and Alexander, 2010; Strelan and Sutton, 2011), and that merely activating thoughts about justice can profoundly affect proclivities to forgive (Karremans and Van Lange, 2005). Extending these lines of research, recent studies show that prompting thoughts about distributive and procedural justice for self and others affects forgiveness in predictable ways – whereas thinking about distributive justice for others reduces forgiveness, thinking about distributive justice for one’s self, or procedural justice for others enhances forgiveness (Lucas, Woerner, Pierce, Granger, Lin, Epel, Assari, Lumley 2018). Although these recent findings provide new and useful precision in linking justice to forgiveness, recent theory and research emphasize that the exposure to justice does not affect all individuals similarly, but rather that fit between justice contexts and justice tendencies is paramount (Major and Townsend, 2012). Therefore, a critical next step is to consider how individual differences might alter the capacity of thinking about justice to impact forgiveness. In the present study, we show that effects of priming justice on forgiveness may further depend on tendencies to believe in distributive and procedural justice for others. In doing so, we highlight the potential for individual differences and

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contextual sources of justice to agree or disagree with one another in ways that promote or prevent responses to interpersonal conflict.

Justice and Forgiveness

Justice was long conceptualized as a barrier to forgiveness (e.g., Exline and Baumeister, 2000; Reed and Aquino, 2003). A key presumption of this early perspective is that acts of forgiveness violate justice values, which require resolving transgression through enacting punishment or extracting compensation (e.g., Exline & Baumeister, 2000). Indeed, numerous examples in the justice literature show that victims may attempt to restore a sense of fairness through seeking retribution or restoration (e.g., Darley and Huff, 1990; Kaiser, Vick and Major, 2004; Tripp, Bies and Aquino, 2007). However, an alternative and more recent perspective is that justice may also enhance forgiveness. Two lines of theory and research lend support. First, the prime-to-behavior literature has shown that momentarily inducing justice cognitions may enhance forgiveness. For example, Karremans and Van Lange (2005) used both explicit and implicit priming methods to show that individuals were more forgiving rather than less when thoughts about justice were made salient, as compared to control conditions in which no thoughts about justice were induced. Second, the individual differences literature has highlighted that justice perceptions are multidimensional (Dalbert, 2009), and in doing so has shown that justice tendencies can be both positively and negatively associated with forgiveness. Most relevant is the distinction between a general belief in fairness for others (i.e., *general justice for others*) and the belief that one personally gets what one deserves (i.e., *personal justice for self*; Bègue and Bastounis, 2003; Lipkus, Dalbert and Seigler, 1996, Sutton and Douglas, 2005; Sutton et al., 2008). With respect to forgiveness, two studies thus far have shown that a tendency to believe in justice for one's self is positively associated with forgiveness, whereas a belief in justice for others is negatively associated (Lucas et al., 2010; Strelan & Sutton, 2011). Both the prime-to-behavior and individual difference literatures have pointed to underlying connections to prosocial values, such as inclusiveness and benevolence, as the psychological core that connects justice to greater forgiveness (Karremans & Van Lange, 2005; Lucas et al., 2018; Strelan, 2007; Sutton, Stoeber and Kamble, 2017).

Distributive and Procedural Justice for Self and Others

Encompassing both the prime-to-behavior and individual differences literatures, an emerging perspective is that the distinction between distributive and procedural justice for

self and others is also important to forgiveness. A growing body of theory and research suggests that the general-personal and distributive-procedural justice distinctions can be concurrently specified, and that doing so can more precisely link justice to a range of positive health outcomes and prosocial attitudes (Lucas and Wendorf, 2012; Lucas, Zhdanova and Alexander, 2011). Although initially introduced as an individual differences framework, in which people are characterized according to their enduring beliefs about distributive and procedural justice for self and others (Lucas et al., 2011), the four factor conceptualization can also be specified as a cognitive activation framework, in which thoughts about distributive and procedural justice for self and others are temporarily activated or induced (Lucas et al., 2016; Lucas et al., 2018). Initial research using both individual difference and initial activation approaches to the four-factor conceptualization has revealed that harsh social attitudes are especially linked to thoughts about *distributive justice for others*, whereas prosocial attitudes are especially associated with thoughts about *procedural justice for others* (Lucas et al., 2011; Lucas et al., 2016; Lucas et al., 2018). In turn, recent studies have shown forgiveness is enhanced by thinking about procedural justice for others, as well as justice for self, whereas forgiveness is reduced by thinking about distributive justice for others (Lucas et al., 2018).

Lucas and colleagues (Lucas et al., 2018) have theorized that four-factor effects may be explained by differential and simultaneous activation of social values and social identity. Specifically, whereas thinking about justice for self activates personal identity and self-focus, thinking about justice for others activates social identity and other-focus. In tandem, whereas thinking about distributive justice activates pro-self values, thinking about procedural justice activates prosocial values. Thus, the capacity of thinking about distributive justice for others to reduce forgiveness might be attributed to simultaneously arousing other-focus and pro-self values, whereas the capacity of thinking about procedural justice for others to encourage forgiveness can be attributed to simultaneously pairing other-focus with prosocial values. Self justice beliefs, on the other hand, are hypothesized to alter forgiveness through connections to personal identity and pro-self values, which aligns with the notion that one may reap personal benefit from forgiving a transgressor.

Individual Differences as Moderators of Initial Activations

In the present research, we consider that individual differences and contextual sources of justice might operate in concert to affect forgiveness. There are numerous examples of

interactive relationships between individual difference and external sources of justice in the available literature (e.g., Lucas, Zhdanova, Wendorf and Alexander, 2013; Ordabayeva, 2019; Wendorf and Alexander, 2005). However, assessing the potential for interactive trait-state influences seems especially timely when considering recent theoretical perspectives and empirical momentum. Notably, so-called inconsistency frameworks have gained prominence in highlighting that social attitudes and behavior are principally governed by the extent to which individual-level social expectations are concordant with actual social experiences (for an overview, Proulx, Inzlicht, & Harmon-Jones, 2012). Of current interest, the inconsistency framework includes that concordance between one's justice beliefs and justice-related experiences, rather than a rote endorsement of or exposure to justice, better determines attitudes and behavior related to personal and social well-being (Lucas et al., 2016, 2017, 2018; Major & Townsend, 2012; Townsend, Major, Sawyer and Mendes, 2010). Yet, evidence for concordance and inconsistency effects of justice on socially-oriented attitudes and well-being, such as forgiveness, has not yet emerged.

We foresee at least two ways in which interactive influences of trait and state justice on forgiveness could be characterized (see also, Lucas et al., 2013). First, interactive influences could be characterized by trait-state congruence. A *congruence moderator effect* would emerge if the effect of a justice prime on forgiveness is altered by a complementary justice tendency, whereas an *incongruence moderator effect* would emerge if the effect of a justice prime on forgiveness is moderated by a contrasting justice tendency. For example, a congruence moderator effect would occur if activating distributive justice for others especially impacts forgiveness among those with a strong a priori belief about distributive justice for others. Alternatively, an incongruence moderator effect would occur if the effect of activating distributive justice for others on forgiveness is altered by beliefs about procedural justice for others, or beliefs about justice for self. Second, interactive influences of trait and state sources could be further characterized according to the valence of the effect on forgiveness. A *facilitation moderator effect* would be observed when a combined justice context and tendency augment forgiveness, whereas an *inhibition moderator effect* would be observed when a combination lessens forgiveness. Taken together, congruence-incongruence and facilitation-inhibition dimensions outline four potential interactive influences. A *congruence-facilitation effect* occurs when an identical justice context and tendency enhance forgiveness, whereas an *incongruence-facilitation effect* occurs when a dissimilar justice context and tendency enhance forgiveness. Alternatively, a *congruence-inhibition effect* would occur when an identical justice context and tendency reduce forgiveness, whereas an *incongruence-inhibition effect* occurs when a dissimilar justice context and tendency reduce forgiveness.

The Present Research

The present research was conducted to initially consider how individual differences and initial activations of justice might operate in tandem to affect forgiveness. To address this novel question, we distinguished between thoughts about distributive and procedural justice for self and others, and we examined these four unique justice cognitions both as deliberately induced initial activations, and as preexisting individual differences. Our research was guided by two general sets of hypotheses about inhibition and facilitation effects. With respect to potential inhibition effects, we expected that beliefs about distributive justice for others would lessen the potential of justice primes to enhance forgiveness. We specifically expected congruence-inhibition effects of this justice tendency on forgiveness when a distributive justice for others prime was used, and incongruence-inhibition when a procedural justice for others prime was used. With respect to potential facilitation effects, we expected that beliefs about procedural justice for others, as well as self-justice beliefs, would strengthen the potential of justice primes to enhance forgiveness. We specifically expected congruence-facilitation effects of a tendency to believe in procedural justice on forgiveness when a procedural justice for others prime was used, and incongruence-facilitation effects when a distributive justice for others prime was used. For self justice beliefs, we expected incongruence-facilitation effects of both other-justice primes.

Method

Participants

With the goal of achieving at least 50 participants in each of four experimental conditions, and to ensure an adequate number of cases to indicators in subsequently described multiple regression analyses (Austin and Steyerberg, 2015), a convenience sample of 240 participants (66 male) was recruited from undergraduate psychology courses at a large urban university in the Midwestern United States. Study recruitment took place over a single term during the fall semester. Participants were predominantly Caucasian (102) and African-American (42), ranging in age from 18 to 51 years ($M = 21.83$, $SD = 5.34$). Participants received course credit in exchange for participating in a single online session that lasted approximately twenty minutes.

Experimental Procedure

This study was conducted by preparing and randomly assigning one of four versions of an online survey, in which thoughts about justice were experimentally manipulated. The overall structure was a fully crossed 2 (distributive vs. procedural) \times 2 (self vs. others) between-participants design.

Thoughts about justice were manipulated using a reflective writing task (Lucas, Rudolph, Zhdanova, Barkho and Weidner, 2014). All participants were asked to recall and write one to two sentences about a past experience that related to fairness. The two justice manipulations were simultaneously embedded within this reflective writing task. To manipulate thinking about distributive versus procedural justice, participants assigned to the distributive justice condition were instructed to write about a past instance that related to fair outcomes, while participants assigned to the procedural justice condition were directed to consider a prior instance that related to fair treatment. In parallel, participants assigned to self-justice conditions were directed to consider a past instance of personal justice, whereas participants assigned to the justice for others conditions were instructed to contemplate a prior instance of justice for someone else. These simultaneously administered manipulations yielded four unique justice primes. For example, a participant may have been asked to recall and write about a prior experience that conveyed *distributive justice for self* (“I received a fair grade in a class that I was taking”), or reflect on a prior experience that related to *procedural justice for someone else* (“a friend was able to make up an exam because of health issues”).

To further emphasize thinking about justice, the reflective writing prime was accompanied by an image of Justitia (see also Karremans & Van Lange, 2005). In addition, all participants responded to four questions immediately following the writing task intended to reinforce priming distinctions. Responses to these items were collected using a Likert-type scale that ranged from 1 (*not at all*) to 7 (*very much*). Participants in distributive-prime conditions answered items that further prompted thoughts about outcomes (e.g., “Was this outcome justified given *your/this person’s* actions?”), whereas participants in the procedural-prime conditions answered items that further provoked thoughts about fair treatment (e.g., “Were *you/they* treated with dignity?”). These responses were averaged separately for distributive ($\alpha = .95$) and procedural ($\alpha = .92$) justice conditions and subsequently analyzed to ensure that there were no differences in the strength of the distributive-procedural justice manipulation between self and other-primed participants. Participants also completed a single item to assess whether their recall was positively or negative valenced (“would you say that the outcome/treatment you received was positive or negative?”). This item was also subsequently analyzed to ensure that recall valence between self and other conditions was no different for either distributive justice or procedural justice.

Measures

Trait Justice Beliefs Individual differences in beliefs about justice for self and others were measured prior to reflective writing using an expanded version of the Procedural and

Distributive Justice Beliefs scale (Lucas et al., 2011). In its original form, this measure captures tendencies to see rules and treatment (procedural justice beliefs), as well as outcomes and allocations (distributive justice beliefs) as deserved (Lucas et al., 2007). Procedural justice beliefs for self (PJ-self) and others (PJ-others) assess beliefs about the deservedness of rules, processes, and treatment towards oneself or towards others (e.g., “I am/Others are generally subjected to processes that are fair”). Similarly, distributive justice beliefs for self (DJ-self) and others (DJ-others) assess beliefs about the deservedness of outcomes or allocations for self and others (e.g., “I/Others usually receive outcomes that I/they deserve”). All items were rated from 1 (*strongly disagree*) to 7 (*strongly agree*), with higher scores indicating a stronger belief in justice. Four subscales for beliefs about distributive and procedural justice for self and others were created by averaging the appropriate subscale items. Subscales were internally consistent for DJ-self ($\alpha = .91$) and PJ-self ($\alpha = .91$), as well as DJ-others ($\alpha = .91$) and PJ-others ($\alpha = .88$).

Forgiveness for Past Transgression Participants completed the Transgression Related Interpersonal Motivations (TRIM) scale (McCullough, Root and Cohen, 2006). Each participant recalled and described a past personal transgression (e.g., “my friend lied to me when I asked for the truth”). Items (1 = *strongly agree*; 5 = *strongly disagree*) then assessed personal motivations for revenge, avoidance, and benevolence in response to this transgression. Items for revenge and avoidance were reversed-coded, such that higher scores on all three subscales indicated greater forgiveness motivations. Following prior research (e.g., Burnette, McCullough, Van Tongeren, & Davis, 2012), and because subscales were significantly correlated ($r_s = .43-.71$, $p_s < .001$), TRIM subscales were combined and averaged to indicate a total forgiveness score ($\alpha = .92$).

General Forgiveness Attitudes We also administered the forgiveness of others subscale of the Heartland Forgiveness Inventory (HFI-others) as an additional measure of forgiveness (Yamhure Thompson et al., 2005). Whereas the TRIM assesses motivations to forgive a specific prior transgression, the HFI-others measures general attitudes towards forgiveness. The HFI-others scale consists of six items assessing attitudes towards forgiving others (e.g., “When someone disappoints me, I can eventually move past it”). Items are measured on a 7-point Likert-type scale (1 = *almost always false of me*; 7 = *almost always true of me*). A total score was calculated by averaging items, with higher scores reflecting greater proclivities towards forgiveness of others ($\alpha = .73$).

Positive and Negative Affect Prior research has shown that justice tendencies and evaluations are connected to positive and negative emotional states (e.g., Feather, Woodyatt and

McKee, 2012; Lucas, 2009). Likewise, forgiveness attitudes and behaviors may be intertwined with discrete positive and negative emotions (e.g. Freedman and Enright, 1996; Rye and Pargament, 2002). To ensure that hypothesized effects were not due to changes in affect that could result from writing about justice or thinking about past transgressions, participants also completed the positive and negative affect scale as an outcome (Watson, Clark and Tellegen, 1988). Participants indicated the extent to which they were currently experiencing ten positively-valenced and ten negatively-valenced feelings (1 = *very slightly or not at all*; 5 = *extremely*). These items were averaged separately, with higher scores indicating greater arousal of positive ($\alpha = .89$) and negative ($\alpha = .89$) affect.

Analytic Strategy

Four-step hierarchical multiple regressions were performed to assess the main and interactive effects of trait justice beliefs and state justice manipulations on forgiveness. Significance was assessed using ΔR^2 and the individual regression weights of predictors that were newly entered at each step. The four individual differences subscales for justice beliefs were centered about their mean and entered at the first step of all regressions. Vectors for the self-other (−1 = self; 1 = others) and distributive-procedural manipulations (−1 = distributive; 1 = procedural) were entered on the second step of multiple regressions, where the main effect of each was assessed. Two-way interactions were entered and assessed at the third step and included the four trait justice interactions with each justice manipulation, as well as the two-way interaction of self-other and distributive-procedural manipulations. Three-way interactions were assessed on the fourth and final step and included interactions between each of the four trait justice beliefs with both self-other and distributive-procedural manipulations. We probed interactions by modeling the effects of justice manipulations separately for individuals high and low in the implicated justice belief (Aiken and West, 1991). Due to small within-cell sample sizes that tend to result from selecting participants at extremes, and given our exploratory objectives, interpretations of significant three-way interactions were based on effect sizes. To consider relative effects of priming, we compared the distributive prime to the procedural prime separately for self and other justice prime conditions. To consider each priming effect in absolute terms (i.e., whether forgiveness was ultimately facilitated or inhibited), we also compared each cell to the grand mean of each forgiveness measure for significant interactions.

To assess the potential effects of socioeconomic variables to influence results, all multiple regressions were repeated while also including gender, age and a single-item self-report measure of household income as covariates on the first step. Results with and without socioeconomic covariates were

functionally identical – on no occasion were the main effects of socioeconomic covariates statistically significant (p 's > .137), nor were r-square values or regressions weights meaningfully altered on any multiple regression step. For parsimony, we report the results obtained excluding socioeconomic covariates as predictors.

Results

Fidelity Checks

Independent samples t-tests conducted on manipulation enforcement items revealed no difference in the strength of the distributive justice manipulation between self and other-prime conditions, $t(118) = 0.14$, $p = .98$. Likewise, the procedural justice manipulation was comparable across self and other conditions, $t(111) = -0.86$, $p = .39$.

Trait-State Justice and TRIM Forgiveness

Table 1 presents results of the TRIM multiple regression. Of primary importance, the fourth step was significant, suggesting the presence of three-way trait x state justice interactions. Regression weights revealed interactive effects of justice manipulations were further moderated by a belief in distributive justice for others, and a belief in procedural justice for others.

Experimental cell means and standard deviations are presented in Table 2, while TRIM probes are illustrated in Fig. 1. We first considered the distributive justice for others moderator effect. For participants with a weak belief in distributive justice for others, differences between priming distributive and procedural justice for self were negligible ($d = -.02$), whereas priming procedural justice for others reduced forgiveness relative to priming distributive justice for others ($d = -.49$). For participants with a strong belief in distributive justice for others, forgiveness was enhanced by priming distributive justice for self, relative to priming procedural justice for self ($d = .25$). However, forgiveness was reduced by priming distributive justice for others relative to priming procedural justice for others ($d = -.30$).

Comparisons to the grand mean for the TRIM ($M = 3.29$, $SD = 0.76$) revealed that among participants with a weak belief in distributive justice for others, there was an inhibitory effect of priming procedural justice for others ($d = -.23$). In addition, there were facilitation effects of priming distributive justice for self ($d = .27$) distributive justice for others ($d = .21$), and especially procedural justice for self ($d = .32$). Among participants with a strong belief in distributive justice for others, there was an inhibitory effect of priming distributive justice for others ($d = -.17$), whereas there was virtually no effect of priming procedural justice for self. Facilitation effects were larger for priming distributive justice for self ($d = .31$) and procedural justice for others ($d = .34$). Overall, grand mean comparisons

Table 1 Trait and State Justice Predicting Forgiveness ($N = 231$)

	TRIM Total	HFI Others
Step 1 Model r^2	.03	.06***
DJ-Self	-.02	.02
PJ-Self	.15	.27***
DJ-Others	-.10	-.09
PJ-Others	.07	-.03
Step 2 Model Δr^2	.00	.00
Self-Others	-.07	-.01
Distributive-Procedural	-.02	-.01
Step 3 Model Δr^2	.05	.03
Self-Others x DJSelf	-.05	-.01
Self-Others x PJSelf	-.17	-.15
Self-Others x DJOthers	.00	.06
Self-Others x PJOthers	.14	.11
Distributive-Procedural x DJSelf	-.11	.10
Distributive-Procedural x PJSelf	-.06	-.05
Distributive-Procedural x DJOthers	.09	-.06
Distributive-Procedural x PJOthers	.09	.07
Self-Others x Distributive-Procedural	.05	.10
Step 4 Model Δr^2	.05**	.03*
Self-Others x Distributive-Procedural x DJSelf	-.07	-.13
Self-Others x Distributive-Procedural x PJSelf	.09	.07
Self-Others x Distributive-Procedural x DJOthers	.23**	.21**
Self-Others x Distributive-Procedural x PJOthers	-.27***	-.20**

Coefficients are standardized regression weights. *** $p < .01$, ** $p < .05$, * $p < .10$

for the TRIM suggested that the trait-state moderator effect involving beliefs about distributive justice for others most strongly encompassed an incongruence-facilitation effect of priming beliefs about justice for self among participants with a weak belief in distributive justice for others, as well as incongruence-facilitation effects of thinking about distributive justice for self and procedural justice for others among participants with a strong belief in distributive justice for others.

Beliefs about procedural justice for others displayed a largely complementary pattern of moderator influences. For

participants with a weak belief in procedural justice for others, priming distributive justice for self increased forgiveness relative to priming procedural justice for self ($d = 1.37$). In contrast, priming distributive justice for others reduced forgiveness relative to priming procedural justice for others ($d = -.27$). For participants with a strong belief in procedural justice for others, priming procedural justice for self increased forgiveness relative to priming distributive justice for self ($d = .61$). However, priming procedural justice for others decreased forgiveness relative to priming distributive justice for others ($d = -.39$).

Table 2 Means and Standard Deviations of Forgiveness Ratings as a Function of Justice Beliefs and Justice Primes

Justice Beliefs	Justice Primes				HFI-Others			
	TRIM							
	DJ-Self	PJ-Self	DJ-Others	PJ-Others	DJ-Self	PJ-Self	DJ-Others	PJ-Others
Low DJ-Others	3.50(0.82)	3.52(0.56)	3.44(0.69)	3.14(0.50)	4.89(0.78)	5.01(1.80)	4.45(0.74)	4.50(0.50)
High DJ-Others	3.52(0.72)	3.30(0.99)	3.14(0.95)	3.54(0.70)	4.76(0.82)	4.49(1.27)	4.38(1.24)	4.66(0.81)
Low PJ-Others	3.87(0.93)	2.53(1.03)	2.96(0.85)	3.16(0.71)	5.50(1.06)	3.64(1.28)	4.23(0.31)	4.43(0.55)
High PJ-Others	3.22(0.68)	3.66(0.76)	3.55(0.42)	3.34(0.62)	4.62(0.85)	4.90(1.06)	4.78(0.87)	4.63(0.74)

Standard deviations given in parentheses

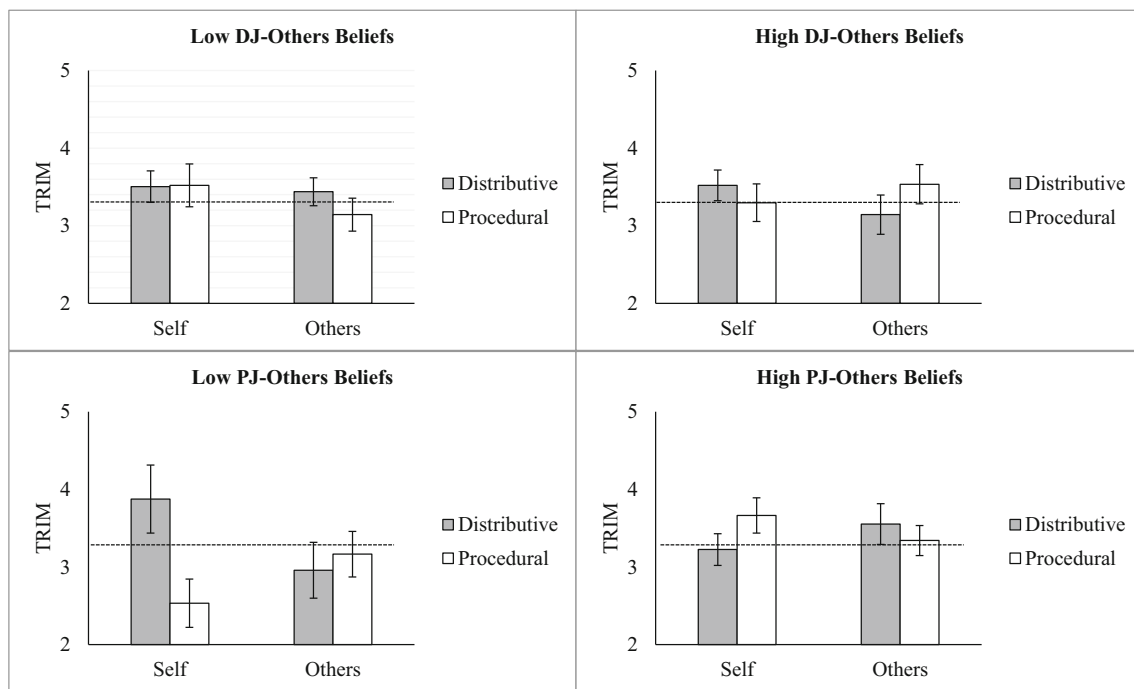


Fig. 1 Trait and state justice predicting overall TRIM. Higher scores indicate greater forgiveness. Error bars represent ± 1 SE. Dotted line indicates TRIM grand mean

Comparisons to the grand mean for the TRIM clarified that among participants with a weak belief in procedural justice for others, there were inhibitory effects of priming procedural justice for self ($d = -.83$), distributive justice for others ($d = -.41$), and procedural justice for others ($d = -.18$), whereas a facilitation effect occurred when priming distributive justice for self ($d = .68$). Among participants with a strong belief in procedural justice for others, the reverse was true. Namely, there were facilitation effects of priming procedural justice for self ($d = .49$), distributive justice for others ($d = .42$), and procedural justice for others ($d = .07$), whereas an inhibitory effect occurred when priming distributive justice for self ($d = -.10$). Overall, grand mean comparisons for the TRIM suggested that the trait-state moderator effect involving beliefs about procedural justice for others most strongly encompassed incongruence-inhibition effects of priming beliefs about distributive justice for self and distributive justice for others, as well as an incongruence-facilitation effect of priming distributive justice for self among participants with a weak belief in procedural justice for others. In addition, incongruence-facilitation effects of thinking about procedural justice for self and distributive justice for others were most notable for participants who strongly believed in procedural justice for others.

Trait-State Justice and HFI-Others Forgiveness

Table 1 also presents regression results for the HFI-others criterion. The first step was significant, and individual

regressions weights revealed a positive association between beliefs about procedural justice for self and forgiveness. Of greater interest, the fourth step was again significant. Regression weights again revealed that justice manipulations were moderated both by a belief in distributive justice for others and a belief in procedural justice for others.

Results for HFI-others are presented in Table 2 and also Fig. 2. For participants with a weak belief in distributive justice for others, differences between priming distributive and procedural justice for self were negligible ($d = -.09$), as were differences between priming distributive and procedural justice for others ($d = -.08$). For participants with a strong belief in distributive justice for others, forgiveness was higher when priming distributive justice for self than when priming procedural justice for self ($d = .25$). In contrast, forgiveness was lower when priming distributive justice for others than when priming procedural justice for others ($d = -.27$).

Comparisons to the grand mean for the HFI-others ($M = 4.51$, $SD = 0.89$) revealed that among participants with a weak belief in distributive justice for others, there were very modest inhibitory effects of priming distributive justice for others ($d = -.07$) and procedural justice for others ($d = -.01$), as well as facilitation effects of priming distributive justice for self ($d = .45$) and procedural justice for self ($d = .35$). Among participants with a strong belief in distributive justice for others, there were modest inhibitory effects of priming distributive justice for others ($d = -.12$) and procedural justice for self ($d = -.02$), as well as facilitation effects of priming distributive justice for self ($d = .29$) and procedural justice for others

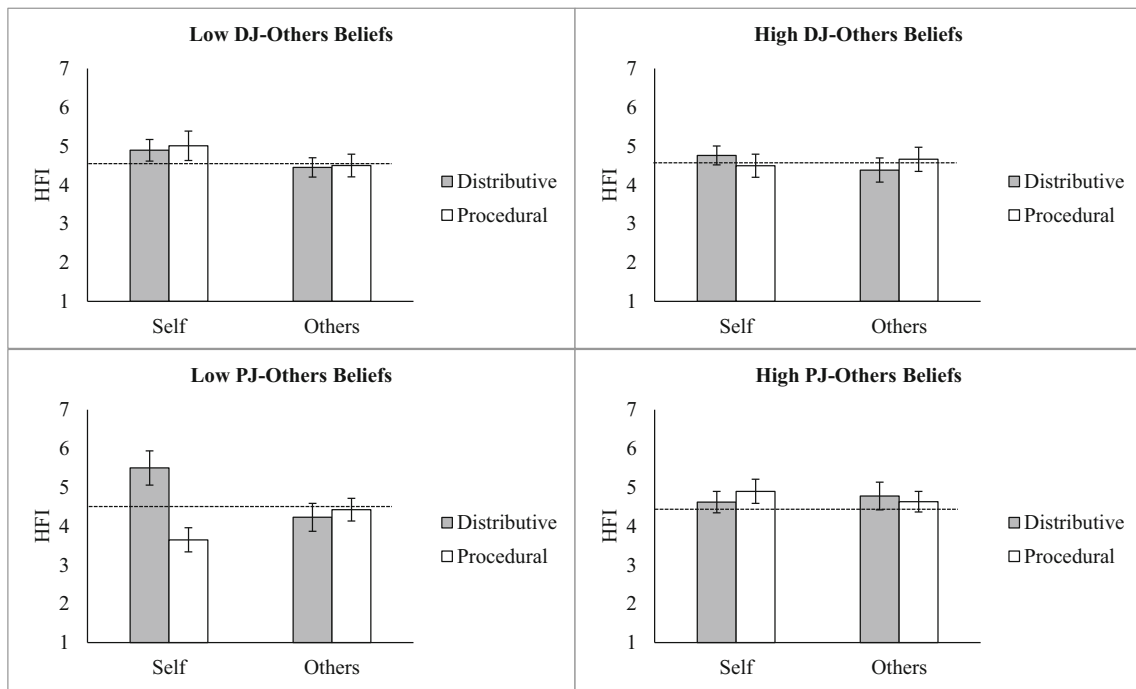


Fig. 2 Trait and state justice predicting HFI-others. Higher scores indicate greater forgiveness. Error bars represent ± 1 SE. Dotted line indicates HFI-others grand mean

($d = .18$). Overall, grand mean comparisons for the HFI-others replicated the trait-state moderator effects involving beliefs about distributive justice for others obtained for the TRIM. Namely, this moderator effect most strongly encompassed an incongruence-facilitation effect of priming beliefs about justice for self among participants with a weak belief in distributive justice for others, as well as incongruence-facilitation effects of thinking about distributive justice for self and procedural justice for others among participants with a strong belief in distributive justice for others.

Interactions with a belief in procedural justice for others once again displayed a largely complementary pattern for HFI-others. For participants with a weak belief in procedural justice for others, priming distributive justice for self increased forgiveness relative to priming procedural justice for self ($d = 1.57$). In contrast, priming distributive justice for others reduced forgiveness relative to priming procedural justice for others ($d = -.45$). For participants with a strong belief in procedural justice for others, priming procedural justice for self increased forgiveness relative to priming distributive justice for self ($d = .29$). In contrast, priming procedural justice for others more modestly decreased forgiveness relative to priming distributive justice for others ($d = -.19$).

Comparisons to the grand mean for the HFI-others clarified that among participants with a weak belief in procedural justice for others, there were inhibitory effects of priming procedural justice for self ($d = -.79$), distributive justice for others ($d = -.42$), and procedural justice for others ($d = -.11$), whereas a facilitation effect occurred when priming distributive

justice for self ($d = 1.01$). Among participants with a strong belief in procedural justice for others, there were larger facilitation effects of priming procedural justice for self ($d = .40$), distributive justice for others ($d = .31$) than occurred for procedural justice for others ($d = .15$) and distributive justice for self ($d = .15$). Overall, grand mean comparisons for the HFI-others clarified that the trait-state moderator effect involving beliefs about procedural justice for others most strongly encompassed incongruence-inhibition effects of priming beliefs about distributive justice for self and distributive justice for others, as well as an incongruence-facilitation effect of priming distributive justice for self among participants with a weak belief in procedural justice for others. In addition, incongruence-facilitation effects of thinking about procedural justice for self and distributive justice for others were most notable for participants who strongly believed in procedural justice for others.

Positive and Negative Affect

We also conducted hierarchical multiple regressions with positive and negative affect serving as criterion variables. Step 1 was significant for both positive affect (Step 1 $\Delta r^2 = .05$, $p = .026$) and negative affect (Step 1 $\Delta r^2 = .05$, $p = .034$), indicating associations between dispositional justice tendencies and affective states. Individual regression weights suggested that beliefs about procedural justice for self were only marginally associated with positive affect ($\beta = .16$, $p = .124$). Negative affect was positively associated with beliefs about

distributive justice for others ($\beta = .21, p = .024$), and marginally negatively associated with beliefs about procedural justice for self ($\beta = -.17, p = .098$). For positive affect, there were no other significant main effects (Step 2 $\Delta r^2 = .01, p = .551$) or interactions (Step 3 $\Delta r^2 = .02, p = .844$; Step 4 $\Delta r^2 = .01, p = .833$). Similarly, negative affect regressions suggested no additional significant main effects (Step 2 $\Delta r^2 = .01, p = .437$) or interactions (Step 3 $\Delta r^2 = .07, p = .102$; Step 4 $\Delta r^2 = .01, p = .871$). Thus, the effects of trait-state interactions of justice on forgiveness were not attributable to changes in positive and negative affect.

Justice Recall Valence

To ensure there were no differences in the strength of the distributive-procedural justice manipulation between self and other-primed participants, we also repeated hierarchical multiple regressions while including valence of justice recall on a newly specified first step. Justice valence was not a significant predictor of TRIM forgiveness (Step 1 $\Delta r^2 = .09, \beta = .18, p = .178$), and prior observed three-way interactions of justice manipulations remained significant for both beliefs about distributive justice for others (Step 5 $\Delta r^2 = .05, p = .021, \beta = .21, p = .010$) and procedural justice for others (Step 5 $\Delta r^2 = .05, p = .021; \beta = -.27, p = .003$). A marginal association with justice valence was obtained for forgiveness of others (Step 1 $\Delta r^2 = .02, \beta = .12, p = .067$), though this relationship also did not affect the prior observed three way interactions of manipulations with beliefs about distributive justice for others (Step 5 $\Delta r^2 = .03, \beta = .21, p = .020$) and procedural justice for others (Step 5 $\Delta r^2 = .03, \beta = -.20, p = .030$). Thus, effects of trait-state interactions of justice on forgiveness were also not influenced by participants potentially recalling a fair versus unfair justice event.

Discussion

The current research bridges and extends recent efforts to connect justice to forgiveness through both prime-to-behavior (Karremans & Van Lange, 2005) and individual difference approaches (Lucas et al., 2010; Strelan & Sutton, 2011). To our knowledge, this study is the first to simultaneously consider the effects of externally imposed and individual difference sources of justice on forgiveness. Consistent with hypotheses, we observed that justice individual differences accentuated the potential of thinking about justice to either enhance or reduce forgiveness. Among individuals who possessed harsh/non-benevolent justice beliefs (i.e., high DJ-others or low PJ-others), forgiveness was inhibited by thinking about distributive justice for others, whereas forgiveness was enhanced by thinking about procedural justice for others, and especially distributive justice for self. Among individuals who possessed benevolent/non-callous justice

beliefs (i.e., high PJ-others or low DJ-others), forgiveness was enhanced by thinking about procedural justice for self, and distributive justice for others. Taken together, these results support that concordance between justice beliefs and justice-related experiences may ultimately determine prosocial attitudes and behavior.

Beyond inconsistency frameworks such as worldview verification theory (Major & Townsend, 2012), some moderator effects that we observed also seem aligned with social influence literature that has highlighted a potential for social context to unleash attitudes and behavior that stem from a priori beliefs. For example, disinhibitory contagion occurs when an individual who is experiencing an internal approach-avoidance conflict experiences a reduction in restraint after exposure to a liberating social force, such as observing an initiator (Levy, 1992; Levy and Nail, 1993). The capacity of thinking about distributive justice for others to dampen forgiveness among individuals who strongly endorsed beliefs about fair outcomes for others might also be thought of as disinhibitory contagion, to the extent that thinking about distributive justice for others may have liberated innate tendencies to endorse harsh social attitudes associated with this belief.

Other aspects of moderator effects that we observed can also be interpreted in light of complementary justice and social influence literatures. Namely, just world theory and research suggest that threats to justice motivate a desire to restore a belief in fairness (e.g., Lerner, 1980). It follows that a threat to justice may be posed to individuals who strongly endorse a belief in procedural justice for others when asked to think about fair outcomes for others, due perhaps to differences in underlying social values (Lucas et al., 2018). This threat may have resulted in boomerang-like rejection of the externally imposed justice activation, and greater forgiveness (see also, Lucas, Alexander, Firestone & LeBreton, 2009). Generally, the present findings suggest that worldview verification theory might bridge with other available justice and social influence frameworks, which can perhaps convey useful explanations of the specific influence phenomena that occur under the umbrella of trait-state justice concordance and discordance posited by worldview verification.

Somewhat interestingly, we did not observe interactions involving self justice beliefs. This finding is somewhat surprising to the extent that available literature has suggested self justice beliefs are positively associated with forgiveness, and that thinking about justice for self can promote forgiveness, implying a ready potential for synergistic effects. One possibility is that expressively writing about justice may have more strongly activated other justice cognitions than self-justice cognitions, suggesting a possibility that alternative priming methods could yield interactive effects of self justice beliefs (e.g., Lucas et al., 2018). We also note that main effects of individual differences on forgiveness were strongest for

beliefs about procedural justice for self, which perhaps suggests that the strength of tendencies to believe in justice for self to connect with forgiveness may have overwhelmed the potential for a subsequent interactive influence. One important direction for future research will be to further explore the potential for trait-state influences that encompass beliefs about justice for self, in addition to justice for others.

The current research should also be considered in light of its potential to one day inform practical applications, including in intervention environments. Given numerous potential health and social benefits, there has been considerable interest among practitioners in developing methods to better enable forgiveness (e.g., Brinkman, Jedinak, Rosen and Zimmerman, 2011; Enright and Fitzgibbons, 2000; though see McNulty, 2011). With an eye towards this direction, the current findings suggest that forgiveness practitioners might borrow intervention strategies developed in the health communication literature, where momentum is increasingly shifting away from targeted communication and intervention approaches to those that endeavor to be tailored (Kreuter, Farrell, Olevitch and Brennan, 2013; Rimer and Kreuter, 2006). Whereas targeted approaches are formulated based on group-level characteristics shared by all members of a population, such as exposure to a similar justice context, tailored interventions also attend to individual-level characteristics, such as justice beliefs (Kreuter, Lukwago, Bucholtz, Clark and Sanders-Thompson, 2003). A key strength of tailoring is that such approaches address within-group heterogeneity to maximize effectiveness. It follows that a tailored forgiveness intervention would recognize that effects of justice messages will not be homogenous, but rather will crucially depend on individual differences. In turn, practitioners may do well to develop multiple justice-oriented messages or activations, as well as methods to match and deploy these messages to particular individuals. The current research also cautions against the broad use of justice activations to encourage forgiveness, given the potential of justice to produce heterogeneous effects. Although carrying potentially useful insights, implications of the present research for forgiveness intervention must also be measured against the practical significance of the effects we observed. Like much behavioral research, justice traits and activations explained a relatively small proportion of overall variance in forgiveness measures. The extent to which these effect sizes are useful in an applied environment remains to be seen.

A handful of limitations suggest a cautious interpretation of the current research and additional direction for future study. First, this research relied on a sample of university undergraduates obtained from a large urban university in the United States (i.e., “weird” participants; Henrich, Heine and Norenzayan, 2010). As such, it is unknown whether the current patterns would be observed in other populations. Future research must assess the

generalizability of the current findings, including cross-cultural studies that could better attend to the unique cultural components of justice and forgiveness. Second, although moderator relationships were generally significant, they stem from three-way interactions, which can be unstable. Although we are reassured to some extent by moderate to large effect sizes, future studies should seek to replicate the current findings using even larger samples, and as such, the current results are best viewed as suggestive. Third, we did not include measures of other potentially important variables in this research, perhaps most notably including perceived transgression severity (Strelan & Sutton, 2011), which has been shown to alter the effects of justice on forgiveness (Lucas et al., 2018). One possibility is that justice primes could lead individuals to differentially recall more or less severe transgressions, though we can at least point to significant effects on general forgiveness attitudes as initial evidence that the observed trait-state interactions are likely not due to differential effects of justice primes on transgression recall. Related, although we assessed the potential of positive and negative affect arousal, as well as gender, age and income to conflate results and found that they did not, numerous other psychosocial and socioeconomic covariates could also be considered. Moreover, some research has shown that gender may act as a moderator of forgiveness attitudes and behavior (e.g., Goldman 2009; Miller & Worthington, 2008) – a possibility that the present study was not well-suited to assess given an unbalanced recruitment of gender, although meta analytic review has also shown that gender is not associated with forgiveness (Fehr, Gelfand and Nag, 2010). Fourth, this research did not consider other possible operationalizations of both justice and forgiveness, both of which are multidimensional constructs. For example, the current research was not designed to consider retributive or restorative forms of justice, which have both been well explored in justice and forgiveness literature (Strelan, Feather and McKee, 2011). Related, this research measured effects of justice on general forgiveness attitudes and forgiveness of a specific past interpersonal transgression towards one’s self. Yet, other aspects of forgiveness, such as decisional and emotional forgiveness (Worthington, Witvliet, Pietrini and Miller, 2007), have also been linked to activation of justice cognitions (Lucas et al., 2018).

Limitations notwithstanding, the current research provides an important step in identifying that trait and state sources of justice can combine to both promote and prevent interpersonal forgiveness. Considering trait and state combinations of distributive and procedural justice for self and others might one day aid in efforts to repair or enhance interpersonal relationships, especially to the extent that thoughts about justice may be a priori activated in a number of ways and matched to individual justice tendencies.

Compliance with Ethical Standards

Conflicts of Interest The authors declare no conflicts of interest and received no external funding for this research.

Ethics Approval The research was carried out at Wayne State University in accord with APA ethical standards and within the terms of the Wayne State University Human Investigations Committee.

Consent to Participate Informed consent was obtained from all individual participants included in the study.

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