Recalling an unfair experience reduces adolescents' dishonest behavioral intentions: The mediating role of justice sensitivity

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Abstract

Injustice experiences are likely to have a strong impact on adolescents' life. However, individuals differ in how they perceive and respond to injustice depending on their justice sensitivity. Whereas several studies analyzed the relationships between justice sensitivity and antisocial behaviors in adult samples, little is known about this relationship among adolescents. The aim of the present experimental study is to expand knowledge on the antecedents and effects of justice sensitivity from the *Victim* (i.e., *JS-Victim*) and *Others* (i.e., JS-*Observer*, *Perpetrator*, and *Beneficiary*) perspective, particularly with regard to its relationship to willingness to act in dishonest behavioral intentions (e.g., stealing money or objects from classmates, teachers, or strangers). The study involved 369 Italian students (52% males; M_{age} = 16.64, SD = 1.78). We examined the role of justice sensitivity in the relationship between the recall of unfair, fair, or neutral episodes, and the consequent willingness to perform dishonest behaviors. Results demonstrate that recalling unfair (vs. fair or neutral) episodes lead to an increase in JS-*Others*, which in turn decreased willingness to behave dishonestly. Conversely, JS-*Victim* did not mediate the relationship between the recall of unfair episodes and intentions to behave dishonestly. The present findings suggest that during adolescence JS-*Others* might act as a protective factor against dishonest behaviors.

Keywords: injustice-related experiences, justice sensitivity, dishonest behavioral intentions, adolescent.

Being treated in an unfair way has important implications on individuals' emotions, attitudes, and behaviors (e.g., Lupfer, Weeks, Doan, & Houston, 2000; Rousseau, Salek, Aubè, & Morin, 2009). Research has shown that the experience of being treated unfairly negatively affects people's self-esteem (Horton, 2004), as well as social relationships (Tyler, 1990). However, not everyone is equally sensitive to unjust treatments. Individual differences in justice sensitivity, that is, a personal concern for justice, play a crucial role in how people react when experiencing unjust events (Baumert, Thomas, & Schmitt, 2012; Schmitt, Neumann, & Montada, 1995). A study by Baumert and Schmitt (2009) showed that, after situational cues of injustice were made salient, individual differences in justice sensitivity influenced how just an ambiguous situation was perceived to be (with people high in justice sensitivity perceiving it as less just). Moreover, researchers have shown that the higher the individual's justice sensitivity, the stronger their tendency to perceive unjust episodes as such and to show intense emotional reactions to injustice (Schmitt et al., 1995). In addition, the higher the justice sensitivity the more people respond to injustice by protesting (Mohiyeddini & Schmitt, 1997; Schmitt & Mohiyeddini, 1996), or by punishing offenders, even at the cost of personal disadvantage (Fetchenhauer & Huang, 2004).

Although studies have highlighted the crucial role of justice sensitivity in how people respond to unjust or unethical behavior, research has yet to systematically investigate the situational antecedents of sensitivity to justice. Instead, justice sensitivity has been approached as a relatively stable individual trait (Schmitt et al., 1995) and the potential for it to be influenced by situational factors has been overlooked. Indeed, latent state-trait models have accounted only partially for the variance in justice judgements (Baumert et al., 2014; Bondü & Elsner, 2015; Schmitt, Gollwitzer, Maes, & Arbach, 2005), while other studies have directly suggested that justice sensitivity can be also "state-like" and can, for example, be affected by previous justice-related experiences. For example, Wijn and van den Bos (2010) found that exposure to both just and unjust events, as compared to neutral events, increases (state) justice sensitivity. Similarly, Kastenmüller, Greitemeyer, Hindocha, Tattersall, and Fischer (2013) showed that death-related (vs. neutral) pictures (Study 1),

or that reading bogus newspaper articles about the high (vs. low) likelihood of terrorism (Study 2), led to higher scores on a justice sensitivity measure.

As justice sensitivity has been primarily studied in adult samples, little is known with regard to the plasticity of justice sensitivity, or the link between justice sensitivity and dishonest behavior in adolescents' samples. Thus, the aim of the present research was to examine, for the first time, how recalling events involving (un)fair treatment might affect adolescents' willingness to behave dishonestly (such as theft of classmates', teachers' and strangers' money or objects), and to consider changes in justice sensitivity as a potential mediating mechanism for this relation.

Our interest in relating the salience of (un)fairness to the willingness to act dishonest behaviors stems from the fact that (dis)honesty is a core element of moral action (Moore & Gino, 2013). Since moral action can be seen as an indicator of the extent to which one feels valued and values others in their surrounding (Aquino & Reed, 2002), one can expect it to vary depending on whether one's attention is focused on injustices that happened to the self or to others. Adolescence should be no different from adulthood in this regard—if anything, these processes might be particularly salient among adolescents, given the importance of social relationships in this period. Moreover, understanding what factors might affect (dis)honesty in adolescence seems particularly important, given that this is a crucial period in the development of moral values (Prestch et al., 2016). During adolescence, many cognitive abilities (Hoffman, 2000) and prerequisites of moral reasoning, such as perspective taking and empathy (Van der Graaff et al., 2014) gain in complexity and differentiation (Chaparro, Kim, Fernández, & Malti, 2013; Van der Graff et al., 2014). At the same time, moral principles and justice beliefs become increasingly important for self-definition (Bondü & Elsner, 2015).

Different Facets of Justice Sensitivity and Behavioral Outcomes

Justice Sensitivity is a multidimensional construct (Bondü & Krahé, 2015), as people experience and respond to justice-related situations from difference perspectives (Baumert et al., 2012; Mikula, 1994). Depending on the viewpoint from which the event is experienced, four different per-

spectives of justice sensitivity can be distinguished (Baumert & Schmitt, 2016). People can: (1) be vigilant to be treated unfairly by others: This is typically associated with anger and a need for revenge (i.e., *victim justice sensitivity*); (2) be inclined to perceive unfair behaviors against others without being directly involved in that unfair interaction/situation: This is typically associated with resentment and a need to punish the perpetrator or compensate the victim) (i.e., *observer justice sensitivity*); (3) be inclined to punish themselves for their own unjust behaviors: Typical reaction is guilt and the need to compensate the victim (i.e., *perpetrator justice sensitivity*); or (4) experience situations in which they obtain outcomes to their own advantage and to the disadvantage of others as aversive (i.e., *beneficiary justice sensitivity;* Bondü & Elsner, 2015; Schmitt et al., 2005; Schmitt, Baumert, Gollwitzer, & Maes, 2010).

Although all four justice sensitivity perspectives reflect a general concern for justice (Baumert et al., 2014), it is possible to distinguish two main macro-perspectives among them. Specifically, while on the one hand victim sensitivity embraces a *self-focused* justice concern, observer, beneficiary, and perpetrator sensitivity involve a genuine concern for others and reflect an *other-focused* justice concern (Baumert et al., 2012). For this reason, measurement tools assessing justice sensitivity often combine scores from observer, beneficiary, and perpetrator sensitivity scales into a single index (i.e., JS-*Others*), to be contrasted with the index of victim sensitivity (i.e., JS-*Victim;* Fetchenhauer & Huang, 2004; Lotz, Schlösser, Cain, & Fetchenhauer, 2013; Stavrova, Schlösser, & Baumert, 2014).

Interestingly, research conducted with adult samples has shown that JS-*Victim* and JS-*Others* are differently associated with attitudes and behavioral outcomes. JS-*Victim* generally predict negative emotions and reactions, such as anger, resentment (Faccenda, Pantaleon, & Reynes, 2009; Mohiyeddini & Schmitt, 1997) and proactive aggression (Bondü & Richter, 2016), and it is positively related to hostility, jealously, revenge, or negative reciprocity (Baumert et al., 2014; Schmitt et al., 2005). JS-*Others,* instead*,* rooted in an altruistic concern for justice (Schmitt et al., 2005), is positively related to prosocial dispositions, empathy, role taking and social responsibility

(Dar & Resh, 2001; Schmitt et al., 2005). Schmitt (1998), for example, showed that for people living in Western Germany, JS-*Victim* was *negatively* related to willingness to pay extra taxes to help the Eastern and poorer part of the country. In contrast, JS-*Others positively* predicted Western Germans' helping attitudes. Gollwitzer, Schmitt, Schalke, Maes, and Baer (2005) found that while JS-*Victim* was associated with willingness to transgress norms in tempting situations, JS-*Others* was linked to norm compliance (Study 3). A subsequent study showed that when participants were asked to predict the cooperativeness of different targets on the basis of minimal information, the accuracy of predictions was negatively related to victim sensitivity, in that the higher the victim sensitivity the lower the estimate of targets' cooperativeness (Gollwitzer, Rothmund, Alt, & Jeckel, 2012, Study 2). Similarly, by adopting a social dilemma paradigm and manipulating information on how many players violated a fairness rule in previous rounds of the game, Gollwitzer, Rothmund, Pfeiffer, and Esenbach (2009) showed that the higher the victim sensitivity, the stronger the willingness to behave uncooperatively, even when there were slight indicators of untrustworthiness. By contrast, the higher the JS-*Others*, the stronger the tendency to behave cooperatively even after having been confronted with strong cues of untrustworthiness. Likewise, in a study investigating decisions in social dilemmas such as dictator games, ultimatum games, and mixed motive games, Fetchenauer and Huang (2004) found that the higher respondents scored on JS-*Others*, the more their game decisions followed norms of equality, whereas participants with high victim sensitivity showed the opposite pattern.

As justice sensitivity has been primarily studied in adult samples, little is known with regard to the plasticity of justice sensitivity, or the link between justice sensitivity and dishonest behavior in adolescents' samples. As partial exceptions, recent correlational findings indicate that, on one hand, mean scores of JS-*Victim* seem to rise in late adolescence while JS-*Others* continues to increase into young adulthood (Bondü & Elsner, 2015) and, on the other, that antisocial behaviors (such as physical and relational aggression) are positively related with JS-*Victim,* and negatively with JS-Perpetrator –i.e., a facet of JS-*Others* (Bondü & Krahè, 2015).

The Current Study

In the present study, we were interested in examining the plasticity of adolescents' scores on two different facets of justice sensitivity – JS-*Victim* and JS-*Others* – as a function of their recall of autobiographical experiences that involved receiving unfair (versus fair or neutral) treatments. In addition, our study aimed to establish how recalling unfair experiences influenced adolescents' subsequent willingness to behave dishonestly by affecting justice sensitivity. We focused our attention on unfair experiences because previous studies showed that unfairness has a prominent role in people's evaluations, reactions (van den Bos, Vermunt, &Wilke, 1997), and justice judgments (van den Bos, 2009), and may lead to higher level of JS-Victim and JS-Beneficiary than just events (Wijn & van den Bos, 2010; Study 1). We nevertheless included both just and unjust events as stimuli to ascertain whether effects were uniquely related to recalling injustice, or whether they were more generally elicited by making either unjust or just events salient.

Since to the best of our knowledge no previous study has yet directly investigated whether the JS-*Victim* and JS-*Others* are differently activated by situational factors, such as recalling past unfair (vs. fair and neutral) treatments at school, and whether theses two different facets of JS may be associated with the willingness to behave (dis)honestly, we advanced two competing hypotheses. On the one hand, research has shown that recalling an episode involving unfair treatment can increase feelings of entitlement and elicit a focus on selfish goals and outcomes (Ziteck, Jordan, Monin, & Leach, 2010). If so, then the recall of episodes involving unfair treatment may be expected to activate the more self-oriented component of justice sensitivity (i.e., JS-*Victim*). Thus, we could expect that the recall of past events where individuals received unfair treatment—compared to the recall of fair and neutral episodes—would increase individuals' JS-*Victim* (H1). As a consequence of the activation of JS-*Victim*, we could expect that people may be driven to behave more dishonestly than in control conditions (H1a), since the opportunity to behave dishonestly may be perceived as a good strategy to balance unjust experiences and restore feelings of equity. This latter mechanism could be understood in the light of equity theory (Adams, 1965) that explains what people feel and

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react when they assess a situation as unfair. Specifically, this theory suggests that when individuals compare the ratio of their inputs and outcomes with the ratio of inputs and outcomes of other individuals and judge this ratio as unequal, they experience emotional distress. To reduce this distress people can act in several negative ways such as poor work performance (Greenberg, 1988), absenteeism (Schwarzald, Koslowsy, & Shalit, 1992), and theft (Greenberg, 1993).

At the same time, research has shown that recalling past negative events that happened to the (individual or group) self can be accompanied by reappraisals that have positive effects on individual wellbeing, such as reduction of anxiety (Pennebaker, 1997). These re-appraisals can presumably diminish the need for an egoistic and self-focused justice concern, and direct individuals to a heightened moral obligation to help others (Warner, Wohl, & Branscombe, 2014; Experiment 1 and 3). Staub (2003; 2005) named this psychological process as 'altruism born of suffering.' Interestingly, research has shown that past adversity was associated with a feeling of compassion for others in need (Lim & DeSteno, 2016) and prosocial attitudes towards victims of natural disasters (Vollhardt & Staub, 2011). Based on this evidence, an intriguing competing hypothesis could be advanced. The re-appraisal of personal unjust experiences could increase the tendency to adopt the perspective of others as well as feeling a sense of responsibility for their welfare, thus activating the dimension of justice sensitivity closely connected to the other-related concerns i.e., JS-*Others* (H2). Moreover, we could expect that the increase of this perspective of justice sensitivity may lead to a lower willingness to behave dishonestly relative to control conditions (H2a). Although we did feel we had not sufficient ground to draw firm hypotheses regarding the pattern to be expected for a 'justice' condition, we added this condition to test whether or not it is sufficient to prime the global concept of justice (through cues to justice or injustice) to affect justice concerns and (dis)honest behavior, or whether this only happens when injustice is primed.

To test our hypotheses, and in order to maximize the ecological validity of our study, a sample of adolescents was recruited at their high school, during regular school hours, and asked to recall real classroom events in which they felt they had been treated unfairly (vs. fairly vs. neutral).

Method

Design and Participants

A between participant research design was adopted based on a 3 (type of the recalled episode: *unfair* vs. *fair* vs. *neutral*) X 2 (source of the described episode: *classmates* vs. *teachers*) experimental design. We decided to vary the source of the described episode in an exploratory vein, to ascertain whether it makes difference in participants' perception.

An a priori power analysis was conducted for sample size estimation (using GPower 3.1; Faul, Erdfelder, Lang, & Buchner, 2007). With an alpha = .05 and power = .90, the projected sample size needed to detect a medium effect size (f = .25, Cohen, 1988) is approximately N = 338 for a between-groups comparison (one-way ANOVA with 6 groups; main effects and interactions). We recruited a slightly larger sample in order to deal with possible missing data. A total of 433 students from a secondary high school in a small town in the center of Italy were involved and randomly assigned to conditions (see Table 1). From the total of 433 questionnaires, 64 were excluded (15 excluded from the unfair condition; 27 from the fair condition and 22 from the neutral condition) because the respondents completed less than half of the questions (retained sample: 369). Of the retained participants (52% males), 25% of adolescents attended the first year of high school (9th grade in the Italian school system), 23% the second, 12% the third, 15% the fourth and 25% the fifth. Age ranged from 14 to 20 years (M_{age} = 16.64, SD = 1.78), with a predominance of 15 (16.5%), 16 (19.5%), and 18 year-olds (16%).

After obtaining formal approval from both the Ethical Committee of the University of Perugia and the school headmaster, two undergraduate psychology students collected data in 19 classes during school hours and in the presence of a teacher. Participants were involved in a larger data collection effort that included the present study together with other studies on different topics. The overall procedure, which consisted in the completion of questionnaires, required approximately 50 minutes to be completed. Participants' anonymity was guaranteed and none of the students declined to fill in the questionnaire. The study was presented as aiming to investigate some of their experi-

ences and relationships with classmates, teachers, and strangers. Once the questionnaire was completed, participants were thanked and verbally debriefed.

Materials and Procedure

All questionnaires had the same headings and questions, except for the manipulation section that varied according to condition.

Manipulation. We adapted the procedure used by Horan, Chory, and Goodboy (2010) and asked participants to describe in writing an episode during which classmates or teachers (according to the source condition) did something to them that they considered unfair vs. fair (according to the type of episode condition). In the control condition they were asked to describe a typical school day. After data collection, two of the authors of the present paper carefully read all the episodes described by participants in order to identify any mistakes in the description of the episode due to a possible misunderstanding of the instructions. From this preliminary screening, it emerged that all the participants correctly remembered the requested episode in line with the instructions received about the type of the episode and the source.

Manipulation check. After the recall of the episodes, we asked participants to indicate the extent to which they regarded the described episode as unfair (one item: "In your opinion, to what extent was the episode you recalled unfair?") and the extent to which they regarded it as fair (In your opinion, to what extent was the episode you recalled fair?") on 10-point rating scales, in which higher scores respectively indicate greater unfairness or fairness; from 1 = *not at all* to 10 = *very much*.

Dependent variables. Right after completing the manipulation check, participants completed the Justice Sensitivity Short Scale (Baumert et al., 2014), which comprises 8 items, two from JS-*Victim* perspective (e.g., *It makes me angry when others are undeservingly better off than me; r =* .37, *p* < .001), hereafter called JS-*Victim*, and 6 from the JS-*Others* perspective that corresponds to the sum of the two items taking the observer perspective (e.g., *I am upset when someone is undeservingly worse off than others)*, two items from beneficiary perspective (e.g., *I feel guilty when I*

am better off than others for no reason), and two items from perpetrator perspective (e.g., *I feel guilty when I enrich myself at the cost of others*) (α = .71). As in Baumert et al. (2014) and Schmitt et al. (2010), the Justice Sensitivity Short Scale was introduced by short instructions: "People react quite differently in unfair situations. How about you? First, we will look at situations to the advantage of others and to your own disadvantage" (This instruction is inserted to emphasize the victim perspective), "Now, we will look at situations in which you notice or learn that someone else is being treated unfairly, put a disadvantage, or used" (This instruction is inserted to emphasize the observer perspective), "Now we will look at situations that turn out to your advantage and to the disadvantage of others" (This instruction is inserted to emphasize the beneficiary perspective), "Finally, we will look at situations in which you treat someone else unfairly, discriminate against someone, or exploit someone (This instruction is inserted to emphasize the perpetrator perspective). Response options ranged from 1 (*totally disagree*) to 6 (*totally agree*). We calculated two different indices of justice sensitivity—JS-*Victim* and JS-*Others*—by averaging the items meant to tap into these two dimensions.

After completing the Justice Sensitivity Short Scale, all participants were presented with six fictitious scenarios to measure willingness to behave dishonestly. Each scenario described a situation in which they would have the opportunity to steal classmates' (two scenarios), teachers' (two scenarios), or strangers' (two scenarios) money or objects (see Appendix). To ensure that, when answering these questions, participants were not thinking of the person who treated them fairly/unfairly in the event recalled as part of the manipulation, participants read the following instructions: "In the next section we ask you to imagine some hypothetical situations. After reading the scenario, please answer the questions. Remember, each time we mention "classmates" (or "teachers"), please think of individuals who are NOT the same you described in the episode that you previously recalled."

For each scenario, we asked participants to rate their willingness to act dishonestly on a 7-point response scale, with higher scores indicating greater willingness to act dishonestly (e.g. "To

what extent, would you be willing to…take coins from the wallets of your classmate without saying anything?)" Response options ranged from 1 = *not at all* to 7 = *absolutely*). We averaged responses to the six items to compute a global index of willingness to act dishonestly (α = .71).

Socio-demographic information. Age, sex, and the class students attended were indicated in the last section of the questionnaire.

The questionnaire was previously piloted with a focus group of 11 adolescents with similar socio-demographic characteristics to the final sample of students (7 males and 4 females from 15 to 17 years old, M_{age} = 16.00, SD = 0.89)**.** Three out of the 6 originally formulated school scenarios and the questions related to their availability to behave dishonestly were modified according to participants' concerns with regard to unclear formulation, or perceived distance from their daily experiences. The wording reported here is the final wording used in this study.

Results

Manipulation Check of Perceived (Un)fairness

To check the perceived (un)fairness of the episodes recalled, we conducted two different one-way Analyses of Variance (ANOVAs). The first ANOVA with perceived unfairness of the episodes as dependent variable showed that our manipulation was successful, $F(2, 353)$ = 88.04, $p <$ .001, ηp^2 = .33. Post-hoc test with Bonferroni corrections showed that the episodes recalled in the unjust condition were perceived as more unfair (M = 8.00, SD = 2.47) than the episodes recalled in the just (M = 2.42, SD = 3.65; $p <$ .001) and the neutral (M = 3.84, SD = 3.67; $p <$ .001) conditions. The second ANOVA we conducted with perceived fairness as dependent variable also showed that our manipulation was successful, $F(2, 337)$ = 133.33, $p <$ .001, ηp^2 = .44. Unjust episodes were perceived as less fair (M = 1.03, SD = 2.06) as compared to the just (M = 7.54, SD = 3.18, $p <$ .001) and the neutral episodes (M = 5.04, SD = 3.42, $p <$ .001).

JS-*Victim* and JS-*Others*

Table 2 presents the means, standard deviations and correlations among the key study variables. To analyze the effect of the type of recalled episode (unfair vs. fair vs. neutral) and the

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source of the recalled episode (teachers vs. students) on JS-*Victim* and JS-*Others*, we conducted a multivariate analysis of variance (MANOVA). A significant multivariate effect emerged for the two variables as a group in relation to the type of the episode ($p = .018$, $np^2=.02$). Neither the source of the episode ($p = .215$) nor the interaction between the two factors ($p = .640$) reached statistical significance at the multivariate level.

With regard to univariate effects, in contrast with H1, JS-*Victim* did not change according to the type of episode recalled, $F(2,343) = 1.42$, $p = .243$, the source of the episode, $F(1,343) = .04$, $p = .846$, or their interaction, $F(2,343) = .81$, $p = .448$. In line with H2, instead, results showed a significant main effect of the type of the episodes on JS-*Others*, $F(2,343) = 5.52$, $p = .004$, $np^2=.03$, with higher levels of JS-*Others* when the type of the episode was unjust ($M = 2.98$, $SD = .10$) rather than just ($M = 2.60$, $SD = 1.21$, $p = .013$), or neutral ($M = 2.48$, $SD = 1.11$, $p = .001$), while neither the source of the episodes $F(1,343) = 2.67$, $p = .103$, nor the two-way interaction between this source and the type of the episodes, $F(2,343) = .297$, $p = .744$ showed significant effects on this variable.

Willingness to behave dishonestly

We conducted an analysis of variance[i] (ANOVA) to examine the effect of the type (unfair vs. fair vs. neutral) and source of the episodes (teacher vs. students) on willingness to act dishonestly. Results yielded a significant main effect of the type of the episodes, $F(2,363) = 3.25$, $p = .040$, $\eta_p^2 = .18$. When participants recalled unjust episodes, they declared to be less willing to act dishonestly ($M = 2.70$, $SD = 1.31$) compared to when they recalled a just episode ($M = 3.06$, $SD = 1.50$, $p = .013$). No significant differences emerged between the recalling of unjust and neutral episodes, $p = .060$, as well as between the just and neutral episodes, $p = .441$. Moreover, the analysis showed that neither the main effect of the source of the episodes, $F(1,363) = .78$, $p = .377$, nor the interaction between this latter variable and the type of the episode recalled, $F(2,363) = 1.10$, $p = .335$, had significant effects on this variable.

Mediational Models

To test the hypothesized mediational models, we followed the procedure described by Preacher and Hayes (2008) through the PROCESS macro, model 4 (Hayes & Preacher, 2014). Figure 1 depicts the model we tested: Recalling of an unfair episode (vs fair vs. neutral) was modelled as the predictor, participants' willingness to behave dishonestly as the dependent variable, and the different facets of justice sensitivity – that is, *JS-Victim* and *JS-Others* – were considered as parallel mediators[ii]. Since the source of the episodes did not affect any of our dependent measures, this variable was not included in the final model.[iii]

Given that our predictor (i.e., type of recalled episode) was a categorical variable with three levels, we created two dummy variables with the neutral episode condition as the reference group. Contrast 1, hereafter called U-NF (i.e., Unfair vs Neutral and Fair episodes), tested the effect of neutral (coded 0) versus unfair (coded 1) episode condition, with fair episode condition coded 0. Contrast 2, hereafter called F-NU (i.e., Fair vs Neutral and Unfair episodes), tested the effect of the recall of neutral (coded 0) versus fair (coded 1) episode condition, with the unfair episode condition coded 0. U-NF was included in the model as independent variable (IV), the overall willingness to act unethically as dependent variable (DV), JS-*Others* and JS-*Victim* as parallel mediators and the F-NU as covariate.

Through the regression approach, we ascertained the direct link between U-NF and the two facets of justice sensitivity, as well as the relationship between JS-*Victim,* JS-*Others* and willingness to undertake dishonest behaviors.

Specifically, the results revealed that the path linking U-NF and JS-*Victim* (b= .25, SE = .19, p = .17), as well as the relationship between this latter facet of justice sensitivity and willingness to act dishonestly (b= .06, SE = .05, p = .25) were not statistically significant.

By contrast, the relationship between the U-NF and JS-*Others* (b = .50, SE = .14, p < .001) was significant, with the positive sign of the regression coefficient indicating that other-related justice sensitivity increased following the recall of unfair episodes (compared to a control and fair

condition). The same result was found with regard to the relationship between JS-*Others* and willingness to behave dishonestly (b = -.39, SE = .07, p < .001), with higher other-related justice sensitivity associated with a reduced willingness to behave dishonestly. The overall equation was significant, R^2 = .10, $F(4,344)$ = 9.53, p < .001.

Then, we followed the procedure described by Hayes (2013) for estimating indirect effects, and check whether the reduction in the direct effect may be attributed to our proposed mediator. We used bootstrapping with 10,000 resamples to compute 95% confidence intervals using model including JS-*Victim* and JS-*Others* as mediators. Confidence intervals that do not include 0 denote statistically significant indirect effects.

In contrast with H1a, the results show that the direct effect of U-NF on willingness to act dishonestly was not significant (b = -.08, SE = .17, p = .65, 95%CI: LL = -.4195; UL = .2610). The indirect effect of U-NF on willingness to behave dishonestly through JS-*Victim* was also not significant (b = .02, SE = .02, 95%CI: LL = -. 0067; UL = .0752). By contrast, as we expected (H2a), the dimension of JS-*Others* significantly mediated the relationship between the recall of an unfair episode and willingness to behave dishonestly (b = -.20, SE = .07, 95%CI: LL = -.3508; UL = -.0852).

In addition, the variable F-NU, included as a covariate, was not significantly associated neither with the two perspectives of justice sensitivity used in the model (JS-*Victim*: b = .21, SE = .19, p = .27; JS-*Others*: b = .12, SE = .15, p = .41) nor with the willingness to behave dishonestly (b = .11, SE = .17, p = .52).

Discussion

Several studies have shown the importance of individual sensitivity to justice in affecting how individuals respond when experiencing unjust events (Baumert et al., 2012; Schmitt et al., 1995). Even though prior research has focused on justice sensitivity as a relatively stable individual trait, recent research has suggested that justice sensitivity can be malleable and triggered by justice-related experiences (Kastenmüller et al. 2013; Wijn & van den Bos, 2010). Nevertheless, prior to the study reported in this paper, no study had examined which component of justice sensitivity is

triggered after recalling unfair personal experiences, nor how this might be associated with an individual's willingness to behave dishonestly. Our study showed the plasticity of justice sensitivity, supporting our prediction that recalling events in which one was treated unfairly, compared to fair or neutral episodes, leads to an increase in justice sensitivity, which in turn decreases willingness to behave dishonestly (such as theft of classmates', teachers', or strangers' money or objects). Moreover, our findings demonstrated that other-related justice sensitivity (i.e., JS-*Others*, but not self-related justice concerns (i.e., JS-*Victim*) mediated the effect of the recall of episodes involving unfair treatment of *the self* on willingness to behave dishonestly.

Thus, our results suggest that being the target of unfair experiences does not necessarily activate an egocentric concern for justice for the self, nor does it necessarily motivate dishonest behaviors driven by self-interest. Recalling unfair personal experiences can, instead, increase concern for others and thereby decrease willingness to behave dishonestly. Moreover, our findings suggest that during adolescence JS-*Others* might act as a protective factor against dishonest behaviors and points to possible interventions that involve reappraising past experiences with unfairness and redirecting feelings of injustice towards the self to promote a sense of justice for others.

As mentioned above, the present study investigated the relation between experiences with (un)fairness, justice sensitivity, and willingness to behave dishonestly in an adolescent sample. Despite its originality, our study presents some limitations that need to be amended in future studies. Although our research prompted participants to focus on real past events that involved fair or unfair treatment, the study was retrospective and did not involve exposing participants to ongoing events. These results therefore do not speak directly to how adolescents might react to an event as a function of its unfairness, as they do on how they respond once reminded of such events. Future studies might complement this research by directly exposing participants to unfair (vs. fair) episodes, as well as by assessing behavioral responses to this experience.

A point that is worth noting is the fact that we adopted a global self-report scale of sensitivity to injustice to assess participants' reactions to (the recalling of) unfair events. Although this could arguably be expected to be less sensitive to situational changes, our findings showed that participants' actually react in the way we hypothesized. Nevertheless, future studies might rely on different measures that are more sensitive to state-changes and tap onto a wider range of affective, cognitive, and behavioral temporary reactions.

A further point that needs to be considered is the adoption of self-report measures to estimate dishonest behavior. Even if these measures have frequently been used with adolescents, the results we obtained could be influenced by social desirability. It is however worth pointing out that it is hard to conceive that participants would have been aware of the 'desired' pattern of results, especially with regard to the distinct role played by the different components of justice sensitivity. In any case, future studies should try to improve the measurement of the dependent variables, measuring actual behavior rather than behavioral intentions, as we did.

Justice-related experiences constantly permeate daily-life, and the school context represents one of the most pervasive environments during adolescence. In this context, students constantly face experiences that may help them to develop more differentiated conceptions of justice (Thorkildsen, 1989). Our results confirm that moral action is an indicator of the extent to which one values others in their surrounding (Aquino & Reed, 2002), since focus on injustices that happened to the self or to others increases concern for others and decreases willingness to behave dishonestly decreases.

In line with these considerations, we believe that our findings could be important for designing and implementing school interventions aimed to promote critical thinking and discussion about injustice among adolescents, and give them the opportunity to take responsibility for acting in a fair way even when the context in which they live is characterized by unjust events. In order to guarantee the effectiveness of the school programs, trainings teachers with a special emphasis on justice is essential. Teachers may design interventions that promote reflections on justice and

ethical values and, at the same time, support their students to identify strategies to restore justice in the classroom and outside of it (Prestch et al., 2016). Although unjust experiences may have negative effects on people's lives, school interventions in which students are encouraged to remember and share unfair episodes - experienced personally – could have positive consequences, such as deciding to act honestly towards others and "*do unto others as you would have them do unto you.*"

Ethical approval: All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional committee (Ethical Committee of the University of Perugia) and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

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Appendix

First scenario

Yesterday morning your teacher called you to the chair because he/she wanted to ask you questions. While he/she thumbed through his/her personal agenda, you were able to see and memorize the password required for entry into the school's electronic registry, where school grades are recorded. When you got home you tried to insert the teacher's password into the registry on the school's website and you manage to login to the electronic register.

Second scenario

Yesterday afternoon you met one of your professors in front of the coffee machine. He/she asked you for change because he/she did not have any coins. You checked your wallet and saw that you had enough change. Once you walked away, you realized that you had made a mistake; you had not given him/her enough change and he had not noticed.

Third scenario

During physical education hour you get very thirsty. You go in the locker room and look in your wallet for coins so that you can buy a bottle of water from the vending machine in the hallway. Unfortunately you do not have enough coins, but you realize that your classmate's wallet is on the bench next to you.

Fourth scenario

Tomorrow you will have a very important task at school but you still did not buy the necessary materials. At the end of the school day, you and your classmates hurriedly exit the classroom. You realize that you forgot your umbrella in the classroom and you go back. On the teacher's chair, you note a folder that belongs to your classmate. You approach the folder and inside you find the precise materials that you will need for the task.

Fifth scenario

After you having shopped for a picnic lunch planned for the weekend, you go to the checkout of the supermarket. You pay but the checkout assistant gives you the wrong change. He/she gives you more banknotes than he should have.

Sixth scenario

You are traveling by train. The passenger next to you gets up because he/she has arrived at his destination. After a few minutes, you notice a small case on the seat where he had been sitting. On the case there is a small nameplate containing an address and a phone number. You open the case and you find a new and super equipped digital camera.

Figure 1

The effect of the recalled episodes on the willingness to behave dishonestly and the role of JS-Victim and JS-Others as potential mediator (PROCESS, Model Number 4)
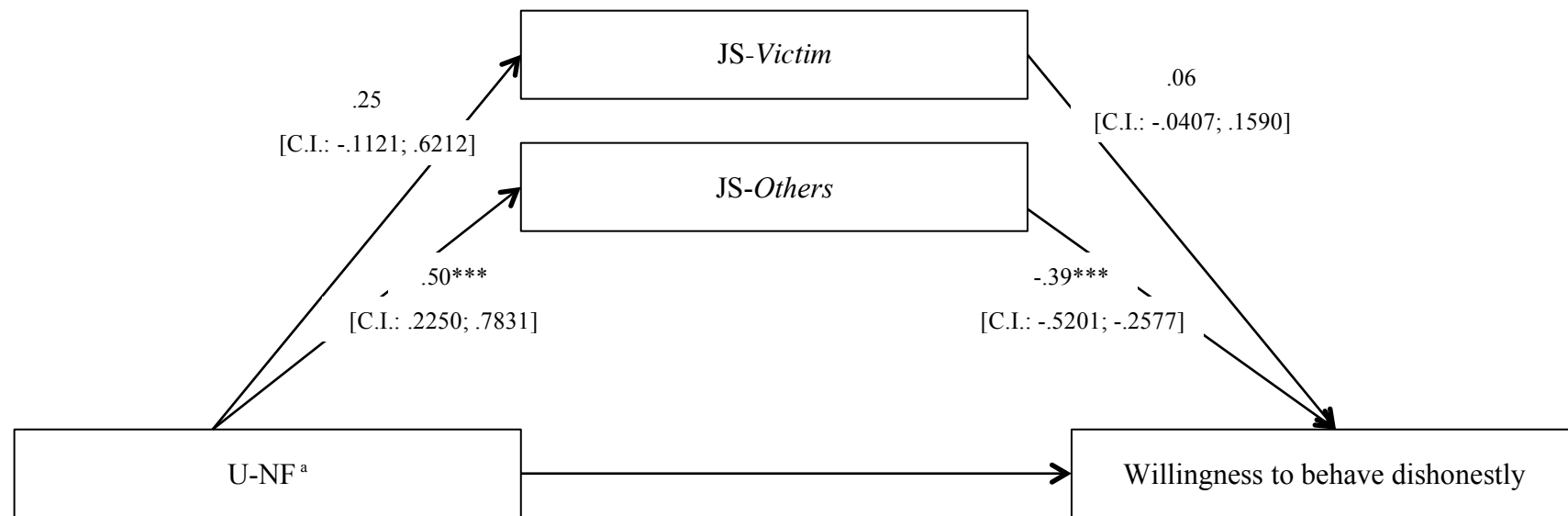
Direct Effect: b = -.08 (95%CI = -.4195 to .2610)
Total Indirect Effect: b = -.18 (95%CI = -.3322 to -.0687)
Total Effect: b = -.26 (95%CI = -.6095 to .0891)

Control for: F-NU [b]
[a] U-NF is coded: 0 = neutral episodes vs. 1 = unfair episodes – 0 = fair episodes
[b] F-NU is coded: 0 = neutral episodes vs. 1 = fair episodes – 0 = unfair episodes
[c] Source of the episodes is coded: 1 = classmates and 2 = teachers

Table 1

Number of participants by conditions

Type of the episodes	Source of the episodes		
	Students	Teachers	Total
Unfair	92	28	120
Fair	55	55	110
Neutral	81	58	139
Total	228	141	369

Table 2

Means, Standard Deviations and Bivariate Correlations Among Key Study Variables.

Variables	Type of the episodes	Descriptives		Correlations			
		M	*DS*	2.	3.	4.	5.
1. Unfairness perception of the episodes	Unjust	7.87(8.36)	2.64(1.83)	-.374*** (-.258)	-.042 (.048)	-.037 (-.061)	-.028 (-.312)
	Just	1.88(2.96)	3.52(3.72)	-.730*** (-.350*)	-.056 (-.100)	-.082 (-.109)	.178 (008)
	Neutral	4.03(3.58)	3.80(3.49)	-.405*** (-.394**)	.091 (.026)	-.082 (-.126)	-.031 (-.112)
2. Fairness perception of the episodes	Unjust	1.02(1.04)	2.08(2.01)	-	.132 (.363)	.158 (-.183)	-.082 (412*)
	Just	7.27(7.80)	3.65(2.63)	-	-.030 (-.100)	.112 (.029)	-.171 (-.035)
	Neutral	4.82(5.35)	3.54(3.23)	-	-.065 (.041)	-.023 (.061)	.028 (003)
3. JS-*Victim*	Unjust	2.92(3.14)	1.35(1.49)	-	-	.141 (.342)	.166 (-.023)
	Just	3.06(2.66)	1.50(1.50)	-	-	.422** (.459**)	-.066 (-.266)
	Neutral	2.77(2.67)	1.60(1.28)	-	-	.062 (.368**)	-.039 (.080)
4. JS-*Others*	Unjust	2.96(3.08)	.98(1.10)	-	-	-	-.169 (-.441*)
	Just	2.52(2.68)	1.14(1.29)	-	-	-	-.175 (-.472**)
	Neutral	2.33(2.67)	1.08(1.12)	-	-	-	-.434*** (-.124)
5. Willingness to behave dishonestly	Unjust	2.80(2.34)	1.37(1.03)	-	-	-	-
	Just	3.00(3.13)	1.28(1.69)	-	-	-	-
	Neutral	2.97(2.90)	1.38(1.34)	-	-	-	-

Notes
* $p < .05$, **$p < .01$, ***$p < .001$
Values outside the brackets referred to the level "students" of the experimental condition called "source of the episodes" while values within the brackets referred to the level "teachers".

[i] Since having recruited participants within their classes could raise concerns about the non-independence in the data structure, we performed a series of mixed method analyses of variance, in which, for each dependent variable, we compared the models with fixed effects only (i.e., those used in the analyses reported in the remainder of this work and retained as the reference model) with a) model including the random intercept effect across classes, and b) a model including both random intercept and random slope effects. Results revealed than in no case random effects turned out to be significant, thus meaning that neither mean levels of the VDs nor the size of the observed effects of the VI significantly varied across classes. More importantly, classroom-level factors accounted for a very small portion of the error variability, and in no case the fit of the models (as measured by the AIC index) improved when random effects were included in the analyses. The pattern of fixed effects remained unchanged across all the analyses.

[ii] We further tested two distinct models with JS-*Victim* and JS-*Others* as unique mediators, and results did not change.

[iii] Research findings did not change with the inclusion of the source of the episodes as a moderator between the type of episodes and the willingness to behave dishonestly.