

**The Relationship Between Behaving Fairly, Belief in a Just World and Self-Perception: A  
Moderated Mediation Analysis**

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### Abstract

Fairness is fundamentally important to human beings, so much so that behaving fairly can have psychological benefits. Past research has shown that behaving fairly can positively influence self-esteem, and this is especially true when one believes that the world is a just place (i.e. belief in a just world). The aim of this study was to further explore the relationships between fairness, belief in a just world (BJW) and self-perception (self-esteem and self-efficacy), as well as to propose explanatory mediating variables. Using a moderated mediation analysis, this study tested whether perceived control or intrapersonal consistency mediate the relationship between fairness and self-perception, and whether BJW moderates this relationship. Participants ( $N = 198$ ) completed an online survey. Results indicated a positive relationship between fairness and self-perception, which was significantly mediated by perceived control, but suppressed by intrapersonal consistency. Contrary to expectations, BJW-other was a significant moderator, while BJW-self was not. Overall, results suggest that the more fairly a person behaves, the more positive their self-perception, and this is because behaving fairly encourages a person to feel in control – a relationship which is especially true when a person believes that the world is a just place for other people.

### Declaration

This thesis contains no material which has been accepted for the award of any other degree or diploma in any University, and, to the best of my knowledge, this thesis contains no material previously published except where due reference is made. I give permission for the digital version of this thesis to be made available on the web, via the University of Adelaide's digital thesis repository, the library search and through web search engines, unless permission has been granted by the School to restrict access for a period of time.

Signed

October 2019

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## 1. Introduction

### 1.1 Background

For most individuals, the concept of fairness is of fundamental importance. Most people have an inherent desire for fairness, and show strong aversions to inequity (Fehr & Schmidt, 1999). Despite individual variation in the way in which people perceive fairness (Barclay, Bashshur, & Fortin, 2017), behaving fairly has been shown to be universally valued (Klein, Grossmann, Uskul, Kraus, & Epley, 2015). During the course of regular cognitive development, children learn that behaving fairly establishes mutual respect and good social relationships (Piaget, 1932). Even after childhood, most individuals are aware that concern for the fair treatment of others has instrumental value. Those who concern themselves with the fair treatment of others are able to maintain their standing within a social group, and those who behave unfairly risk exclusion from the social unit (Dalbert, 2001).

Given that fair behaviour is both universally valued and socially admired, it is unsurprising that behaving fairly towards others has been shown to be associated with a range of psychological benefits. For example, Dalbert (1999) found that behaving fairly towards others has a positive influence on self-esteem. Additionally, results from the study also found that the way in which an individual views justice in the world is a significant contributing factor. It was found that the positive influence of fairness on self-esteem was particularly poignant when participants believed the world to be a just place. This phenomenon is known as Belief in a Just World (Lerner, 1980), which states that individuals tend to believe that the world is a just place in which people get what they deserve. In addition to attempting to replicate the results from Dalbert (1999), the aim of this study is to further explore the relationship between behaving fairly, belief in a just world, and self-esteem. As this study is exploratory in nature, the concept

of self-efficacy will also be examined as an outcome variable. How one feels about themselves (i.e. self-esteem) as well as their ability to achieve things (i.e. self-efficacy), creates the overarching idea of self-perception. Overall, the aims of the present study are to explore how behaving fairly positively influences self-perception, what mediating variables can help explain this relationship, and to what extent does belief in a just world have a significant influence.

## **1.2 How Behaving Fairly Influences Self-Perception**

Dalbert (1999) found that behaving fairly towards others has a positive influence on self-esteem. Results indicated that the more participants described themselves as behaving fairly more often than other people, the better their self-esteem. In order to explore this relationship and determine why fairness can increase self-esteem, it is important to first consider why people care about fairness. The fundamental concern with fairness is said to be due to three different categories of motives (Klein et al., 2015). These are (1) instrumental motives, which highlight the importance of self-interest and control; (2) relational motives, which emphasize belonging and esteem and (3) moral motives, which stress internalized moral duties and norms.

When considering the relationship between fairness and self-perception, the most salient category of motives is the relational category. This category focuses on how fairness fulfills people's need to feel good about themselves. That is, people care about fairness because it provides them with information about their relationship within a group, and whether or not they are respected members (Lind & Tyler, 1988). The positive influence of behaving fairly can be observed within the literature regarding the beneficial nature of prosociality. Prosocial behaviour refers to an individual's tendency to enact behaviours such as sharing, helping and caring (Caprara, Alessandri, & Eisenberg, 2012). Research has shown that the act of helping others allows individuals to gain social acceptance, as well as build a positive reputation, which in turn

increases an individual's social status within their community (Flynn, 2003; Flynn, Reagan, Amanatullah, & Ames, 2006). Given that social acceptance has been shown to be associated with self-esteem (Leary, 1999; Leary & Baumeister, 2000), behaving fairly towards others is therefore likely to be beneficial to one's self-perception. Indeed, it has long been thought that the act of helping others is not only beneficial for the recipient of help, but also for the helper. For example, research has shown that helping others is associated with better life adjustment (Crandall & Lehman, 1977) and improved mental health (Schwartz, Meisenhelder, Yusheng, & Reed, 2003), as well as higher personal worth and self-esteem (Klein, 2017). A further exploration of such relationships by Weinstein and Ryan (2010) found that the beneficial nature of helping others is greater when the help was given as a result of autonomous motivation. That is, the benefits of helping others are especially salient when a person is motivated to help.

### **1.2.1 The Mediating Effect of Perceived Control**

According to the instrumental motive, people care about fairness because it provides a sense of control over outcomes, and allows them to feel confident that they will receive beneficial outcomes in the future (Barclay et al., 2017). A study by Converse, Risen and Carter (2012) found that when people are faced with outcomes that are beyond their personal control (e.g. acceptance letter, job offer, medical tests results), they are more likely to help other people. In their study, it was found that when participants desire an outcome over which they have little control, they act more virtuously (e.g. donations of time and money). Similarly, it was also found that job seekers who feel as though the process is outside of their control make more generous pledges to charities. Such results are consistent with the instrumental motive for fairness, in that people care about behaving fairly towards others because it creates a sense of control over future outcomes.

### **1.2.2 Intrapersonal Consistency as a Mediator**

The present study is also proposing intrapersonal consistency as an alternative mediator in the relationship between behaving fairly and positive self-perception. This is being done to control for the possible effect of a consistency between values and behaviour. It may be the case that any increase in positive self-perception as a result of behaving fairly could be due to a congruency between an individual's values and behaviour. For example, if a participant rates their behaviour as fair and has an increased level of positive self-perception, this may be because they value fair behaviour, and consequently any increase in positive self-perception could be due to the consistency between what they value and how they behave. Thus, in this scenario a sense of control is not driving the relationship between fairness and self-perception, but rather the contributing factor is the consistency between values and behaviour.

### **1.3. Understanding Belief in a Just World**

Based on a series of experiments (e.g. Lerner, 1965; Lerner & Simmons, 1966), Lerner (1980) proposed that people have a need to believe that the world is a just place. This need, as described by Lerner, functions as a way for people to make sense of and find meaning in their experiences. The belief in a just world can provide individuals with a conceptual framework for understanding their world, by creating patterns to their experiences and the events that occur within their environment. Ultimately, these patterns convey a sense of orderliness and predictability, and as such create an environment in which events occur for good and justifiable reasons. The central theme of BJW, and the way in which it can create a sense of predictability, is the concept of deservingness. A just world is a world in which people get what they deserve and deserve what they get. Maintaining such beliefs about deservingness involves a process of construing causality, whereby fortuitous outcomes are caused by the relative deservingness of

whomever receives them. Thus, BJW can restore a sense of justice, if one simply believes outcomes (be they good or bad) are caused by what a person does or does not deserve.

#### **1.4 A Just World for the Self vs. A Just World For Others**

Much of the early research on the justice motive made use of experimental paradigms to examine observer reactions towards victims of injustice (see Ellard, Harvey, & Callan, 2016 for a review). Such research assumes that the need to believe in a just world is a universally shared characteristic. In contrast to this, there also exists another body of literature within the realm of individual differences, where instead BJW is viewed as an individually varying construct (see Hafer & Sutton, 2016 for a review). A significant development within the individual differences literature was the development of the bi-dimensional model (Lipkus, Dalbert, & Siegler, 1996), which distinguishes between just world beliefs for the self and just world beliefs for others. The distinction between BJW for the self and BJW for others aims to capture the different ways in which individuals perceive justice; whether the world is just for them (BJW-self), or whether it is just for other people generally (BJW-other).

When examining the influence of BJW, the distinction between the two different spheres becomes important, as although the dimensions are moderately correlated, research has shown that they are associated with vastly different outcomes. For example, BJW-other has been more closely associated with the negative attitudes shown towards victims of injustice (Ellard et al., 2016), whereas BJW-self has been more closely associated with the theoretical benefits of BJW (see Bartholomaeus & Strelan, 2019 for a review). In the study by Dalbert (1999), it was found that the personal belief in a just world personal, in comparison to the general belief in a just world, was more important in explaining mental health and general well-being. In fact, results indicated that the more participants endorsed the personal belief in a just world (but not the

general belief in a just world), the better their actual positive mood, mood level, self-esteem, and life satisfaction. Additionally, in the work by Lipkus et al. (1996) it was found that BJW-self, as opposed to BJW-other was associated with higher levels of life satisfaction and lower levels of depression and stress. In a study by Sutton, Stoeber and Kamble (2017) social goals related to BJW (e.g. nurturance, intimacy and social development) were associated only with BJW-self, while in contrast BJW-other was positively related to dominance and social demonstration goals.

### **1.5 The Moderating Effect of Belief in a Just World**

Dalbert (1999) found that the relationship between behaving fairly and self-esteem was also influenced by the extent to which a participant believed the world to be a just place. The results indicated that the more participants endorsed BJW, the more fair behaviour had a positive influence on self-esteem. Conversely, participants with high BJW who perceived their behaviour as unfair had decreased self-esteem. Participants who perceived their behaviour as unfair, but did not have high BJW, did not have decreased self-esteem. The results from the Dalbert study can be explained by what Lerner (1977) terms the 'personal contract'. According to Lerner, the belief in a just world can be interpreted as indicating a personal contract between an individual and their social world. Those who have a strong BJW and a strong personal contract have a tendency to believe that present behaviour is related to future outcomes. That is, the way in which a person behaves in the present should result in commensurate outcomes in the future. A just world is a fair world, and a fair world is a world where people get what they deserve. Thus, behaviour should result in morally fair and fitting consequences. To that end, good behaviour is rewarded, and bad behaviour is punished.

When an individual behaves fairly in a world they believe is just, they are fulfilling their personal contract with the world. That is, to the extent that they behave fairly towards others,

they expect to be treated thusly in return. In a just world where people get what they deserve, behaving fairly serves to increase the deservingness of the individual, thus increasing the likelihood of good fortuitous outcomes. As a result, people with high BJW may be more inclined to behave fairly towards others. Thus, BJW is indicative of an obligation to behave fairly (Dalbert, 2001). As such, there have been many studies that have suggested a positive relationship between BJW and prosocial behaviour. Previous research has shown associations between BJW and certain social goals, such as intimacy, nurturance and social development (Sutton et al., 2017), as well as an increased tendency to forgive others (Strelan, 2007). Such research suggests that believing in a just world motivates people to behave in ways that make them more deserving of good outcomes, with the expectation that they will be justly rewarded in the future.

Emerging as a result of the perceived contingency between present behaviour and future outcomes, fulfilling the personal contract also affords individuals a sense of control. Individuals with a high BJW and a strong personal contract believe that their current efforts will eventually pay off, or that they will be eventually rewarded for their good behaviour. Consequently, individuals are able to feel in control of their future outcomes, and are able to proceed through life confident that they will be treated fairly. As such, research has shown that BJW is associated with having confidence to invest in long-term goals (Hafer, 2000). Additionally, recent research by Ucar, Hasta and Malatyali (2019) found that personal belief in a just world increased perceived control, which in turn resulted in decreased hopelessness and increased life satisfaction.

Given that BJW can afford individuals with a sense of control through the fulfillment of their personal contract, BJW should influence (i.e. moderate) the relationship between fairness,

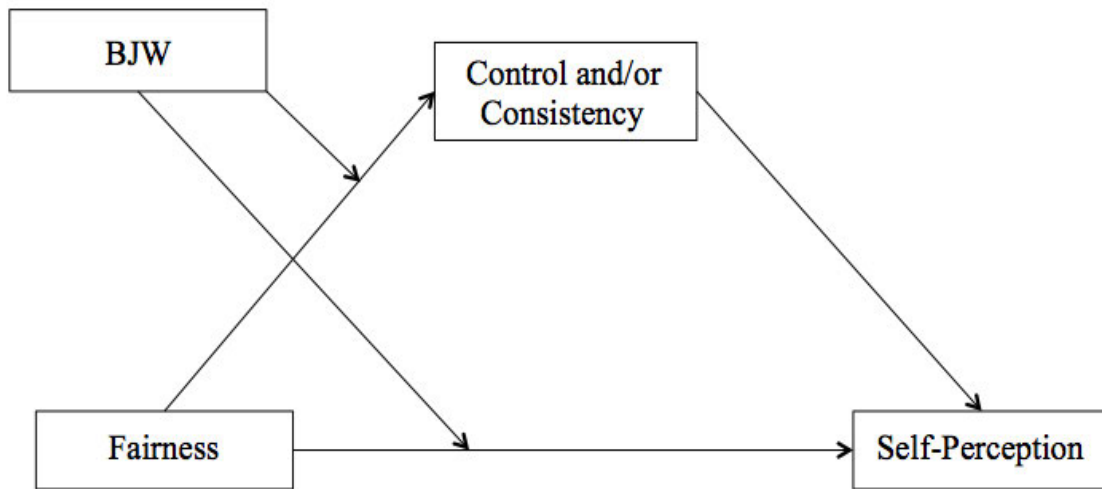
control and positive self-perception. As it has been noted, people are motivated to behave fairly because it provides a sense of control over outcomes, as well as a positive influence on self-perception. When an individual has high BJW, they likely have a strong personal contract with their social world. This personal contract dictates that behaving fairly towards others increases the likelihood of being treated fairly in return, which consequently provides a sense of control over outcomes. Thus, the higher ones BJW, the higher their obligation to behave fairly, and the more they behave fairly, the more they should feel in control of their future outcomes, and the better their positive self-perception.

## **1.6 The Present Study**

Previous research by Dalbert (1999) found that behaving fairly towards others has a positive influence on self-esteem, especially when one believes the world is a just place. The aim of the present study is to replicate these results, as well as to provide further explanation. By proposing potential mediating variables, the present study extends the results from Dalbert (1999) and attempts to provide an explanation for why behaving fairly can increase self-esteem. It is hypothesised that (1) fairness will have an indirect effect on self-perception (i.e. both self-esteem and self-efficacy) through two potential mediators, perceived control and intrapersonal consistency; (2) the effect of fairness on each mediator will be moderated by BJW; and (3) the effect of fairness on self-perceptions will be moderated by BJW. The third hypothesis is the Dalbert (1999) study replication, while the first two hypotheses relate to the two mediating variables that are being proposed in this study. Consistent with previous literature (e.g. Dalbert, 1999; Lipkus et al., 1996; Sutton et al., 2017) it is also expected that positive self-perceptions will be influenced more by BJW-self than by BJW-other. This study will explore these relationships with the use of a moderated mediation analysis (see Figure 1), whereby fairness is



the predictor variable, perceived control and intrapersonal consistency are the mediator variables, BJW is the moderator, and self-perception (i.e. self-esteem and self-efficacy) are the outcome variables.



*Figure 1.* The proposed moderated mediation model

## 2. Method

### 2.1 Participants

Given the time restraints of an honours thesis, the aim was to obtain as many participants as possible by the end of semester 1. Nonetheless, an *a priori* power analysis was conducted using G\*Power 3 (Faul, Erdfelder, Buchner, & Lang, 2007). Based on an alpha of .05, a medium effect size and power of .95, a sample size of 129 was determined to be sufficient for this study. Sampling from first year psychology students as well as sampling from the general population was considered sufficient to meet the estimated required sample size by the end of semester 1.

Participants were recruited via the University of Adelaide School of Psychology's research participation system. First year psychology students volunteered to participate and received course credit for their participation. Additionally, sampling from the general public was conducted, using methods of convenience and snowball sampling. A total of 208 responses were collected. Six participants did not complete the survey in its entirety and were excluded from the final sample. An additional 4 student participants were excluded due to rote responding. The final sample consisted of 198 people (73 Males, 124 Females, 1 unspecified). Participants ranged in age from 17-80 years ( $M = 26.94$ ,  $SD = 13.51$ ). Within this sample, 131 were first year psychology students from the University of Adelaide and the remaining 67 participants were members from the general public. Cultural backgrounds among participants were varied, with participants identifying as Australian (30%), Asian (21%), Caucasian (19%), European (15%), mixed (7%) and other (5%). Two participants did not disclose their cultural background.

## 2.2 Procedure

The study was conducted online using SurveyMonkey. Prior to starting the survey, participants were provided with an information sheet outlining all relevant information. Participants were then asked to complete several scales. For each measure, participants were presented with a series of statements to which they indicated the extent of their agreement/disagreement on a numeric scale. At the end of the survey, participants were asked to provide demographic information (age, gender and cultural background). The survey took approximately 10 minutes to complete.

## 2.3 Measures

Measures included fairness, belief in a just world, perceived control, intrapersonal consistency, self-esteem and self-efficacy. Self-efficacy was measured on a 4-point scale (1 = *not true at all* to 4 = *exactly true*), while all other variables were measured on a 6-point scale (1 = *strongly disagree* to 6 = *strongly agree*). All measures were continuous, with higher mean scores indicating a stronger construct.

**2.3.1 Predictor variables.** The measure of *Fairness* indicated the extent to which a participant felt that they behave fairly. While the Dalbert (1999) study measured fairness with an experimental design developed from Messick, Bloom, Boldizar and Samuelson (1985), the present study instead measured fairness as a continuous variable. Fairness was measured using 10 items developed for the purpose of this study ( $\alpha = .85$ ). Items encompassed values such as honesty, integrity, equality and trustworthiness, and measured the extent to which the participant felt that they behave in accordance with these values. Positively scored items were “I behave fairly most of the time”, “behaving fairly is important to me”, “I try to treat all people equally”,

“I always try to tell the truth”, “I am a trustworthy person”, “I always try to follow the rules” and “I feel better when everyone gets a fair go”. Reverse scored items were “I don’t care about treating people equally”, “I don’t mind lying to get ahead” and “I only care about what is best for me”.

*Belief in a Just World* was measured using the 16-item Belief in a Just World Scale (Lipkus et al., 1996). The scale is divided into two subscales, in accordance with the two different domains of just world beliefs. The BJW-self scale ( $\alpha = .87$ ) included items such as “I feel that the world treats me fairly” and “I feel that I get what I deserve”, while the BJW-other scale ( $\alpha = .89$ ) included items such as “the world treats other people fairly” and “I feel that people get what they deserve”. The subscales consisted of 8 items each.

**2.3.2 Mediator variables.** *Perceived Control* was measured using the 7-item *Mastery* subscale of the Psychological Coping Resources Scale (Pearlin & Schooler, 1978,  $\alpha = .78$ ). The scale consisted of 2 positive items (e.g. “I can do just about anything I really set my mind to”), and 5 reverse scored items (e.g. “I have little or no control over the things that happen to me”).

*Intrapersonal consistency* measured the extent to which a person behaves in ways that are consistent with their values. This construct was measured using 5 items developed for the purpose of this study ( $\alpha = .84$ ). The items focused on the importance that participants placed on their values and the extent to which they acted in accordance with those values. Items were “my values are important to me”, “I always act in accordance with my values”, “I always do what I say I will do”, “it is important to me to act consistently with my values”, “I always strive to be my ideal self”.

**2.3.3 Outcome variables.** *Self-esteem* was measured using the 10-item Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1989,  $\alpha = .90$ ). The scale consisted of 5 positive items (e.g. “I feel that I am a person of worth, at least on an equal plane with others”), as well as 5 reverse scored items (e.g. “I feel I do not have much to be proud of”). None of the individual items refer to a specific period in time, and as such the scale is expected to assess a habitual dimension (i.e. trait self-esteem). The RSES is the most commonly used measure of self-esteem, and has good test-retest reliability and construct validity (Blascovich & Tomaka, 1991).

*Self-efficacy* was measured using the 10-item General Self-Efficacy Scale (GSES; Schwarzer & Jerusalem, 1995,  $\alpha = .87$ ). Items included “I can always managed to solve difficult problems if I try hard enough” and “I am confident that I could deal efficiently with unexpected events”. The GSES is positively correlated with emotion, optimism and work satisfaction, as well as negatively correlated with depression, stress, health complaints, burnout and anxiety (Schwarzer & Jerusalem, 1995). Thus, the scale has good construct validity.

## 2.4 Ethical Considerations

Ethics approval was obtained through the University of Adelaide’s Human Research Ethics Subcommittee. The participant information sheet informed participants that their participation in the study was completely voluntary and they could withdraw at any time. They were also reassured that their responses were anonymous and confidential. Contact details for counselling services were provided to participants at the end of the survey, in the event that they experienced distress as a result of their participation.

### 3. Results

#### 3.1 Descriptive Statistics of Variables Analysed

Means and standard deviations are reported in Table 1. A series of one-sample *t*-tests were used to determine if scale means were significantly different from the midpoint of each scale. Results indicated that for the measure of fairness, the mean ratings were significantly greater ( $p < .001$ ) than the midpoint of the scale, suggesting that on average, participants tended to view their behaviour as fair. Ratings of BJW-self, perceived control, intrapersonal consistency, self-esteem and self-efficacy were all significantly greater than the midpoint of their respective scales (all with  $p < .001$ ). Ratings of BJW-other did not differ significantly from the scale midpoint ( $p = .092$ ).

Table 1

*Means and standard deviations of variables analysed*

	<i>M</i>	<i>SD</i>
1. Fairness	5.01	.60
2. BJW-Self	4.09	.77
3. BJW-Other	3.10	.81
4. Perceived Control	4.13	.79
5. Intrapersonal Consistency	4.84	.67
6. Self-Esteem	4.08	.88
7. Self-Efficacy	2.93	.43

### 3.2 Bivariate Correlations Between Variables Analysed

The bivariate correlations between the variables analysed are summarised in Table 2. The predictor variable fairness was positively associated with both mediator variables perceived control and intrapersonal consistency, as well as positively associated with outcome variable self-esteem. Moderator variable BJW-self was positively associated with perceived control and with outcome variables self-esteem and self-efficacy, while BJW-Other was positively associated with self-efficacy. Perceived control was positively associated with both self-esteem and self-efficacy. Additionally, intrapersonal consistency was positively associated with self-esteem and self-efficacy. All bivariate correlations were consistent with the expected direction and magnitude.

Table 2

*Correlations between predictor, mediator, moderator and outcome variables*

	1	2	3	4	5	6	7
1. Fairness	1.00						
2. BJW-Self	.15*	1.00					
3. BJW-Other	-.07	.50***	1.00				
4. Perceived Control	.26***	.46***	.17*	1.00			
5. Intrapersonal Consistency	.59***	.18*	-.03	.30***	1.00		
6. Self-Esteem	.22***	.37***	.18**	.59***	.49***	1.00	
7. Self-Efficacy	.16*	.35***	.25***	.50***	.33***	.61***	1.00

*Note.* \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

### 3.3 Testing of the Moderated Mediation Models

The present study tested a moderated mediation model. Specifically, (1) fairness will have an indirect effect on self-perception (i.e. both self-esteem and self-efficacy) through two potential mediators, control and intrapersonal consistency; (2) the effect of fairness on self-perception through each of the mediators will be moderated by BJW; and (3) the effect of fairness on self-perceptions will be moderated by BJW. To test these moderated mediation relationships, Hayes' (2018) PROCESS macro for SPSS was used (version 3.0; 5000 iterations; bias corrected). Fairness was set as the predictor variable, perceived control and intrapersonal consistency as mediator variables, BJW as the moderator variable, and self-esteem and self-efficacy were set as the outcome variables. For the analysis, the two different spheres of BJW (BJW-self and BJW-other) were treated as two separate moderator variables. The model was run four times, once for each combination of the two outcome variables and the two moderator variables. Both mediating variables were added simultaneously each time the model was run. Fairness was the only predictor variable for each model. For all analyses, interaction variables were mean centered.

For the present study, PROCESS model 8 was used. This model allows for testing direct, indirect, conditional direct and conditional indirect effects. As an explanation, consider Figure 2 below. A direct effect refers to the direct relationship between the predictor variable and the outcome variable (in this example, the direct effect of fairness on self-perception). An indirect effect refers to the relationship between the predictor and the outcome via an additional mediating variable (in this example, the indirect effect of fairness on self-perception via control and/or intrapersonal consistency). A conditional *direct* effect refers to the relationship between the predictor and the outcome at different levels of a moderator variable. That is, the strength of



the relationship between predictor and outcome at different conditions of the moderator (in this example, the direct effect of fairness on self-perception at different levels of BJW). Lastly, a conditional *indirect* effect refers to the effect of the predictor on the outcome via a mediator at different levels of a moderator (in this example, the effect of fairness on self-perception via control and/or intrapersonal consistency, at different levels of BJW). For a more detailed discussion on moderation, mediation and conditional process analysis see Hayes (2018).

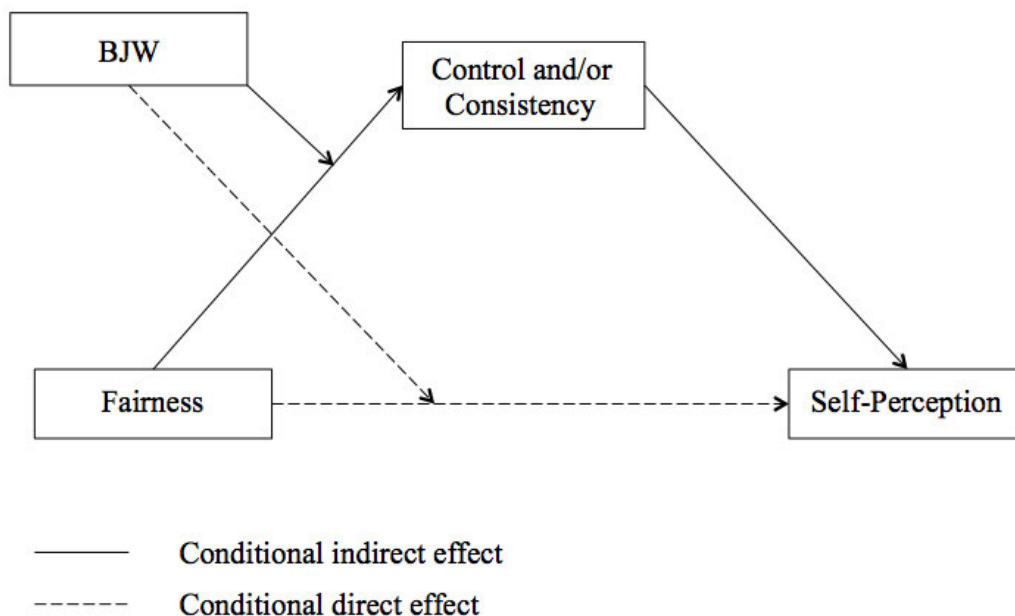


Figure 2. Conditional direct and conditional indirect effects of fairness on self-perception

### 3.4 Testing of the Moderated Mediation Model for BJW-Self and Self-Esteem

*The interaction of fairness and BJW-self on mediating variables.* This section addresses the moderation components of the analysis, which tests the interaction of fairness and BJW-self on each of two mediators, perceived control and intrapersonal consistency. Firstly, in terms of direct effects on the mediating variables, both fairness ( $B = 0.285$ ,  $p = .001$ ,  $CI_{95\%} = [0.117, 0.453]$ ) and BJW-self ( $B = 0.436$ ,  $p < .001$ ,  $CI_{95\%} = [0.308, 0.564]$ ) significantly predicted

perceived control. The interaction between fairness and BJW-self did not significantly predict perceived control ( $B = 0.143, p = .199, CI_{95\%} = [-0.076, 0.361]$ ). In relation to direct effects on the mediator variable intrapersonal consistency, fairness was a significant predictor ( $B = 0.625, p < .001, CI_{95\%} = [0.492, 0.757]$ ), while BJW-self was not a significant predictor ( $B = 0.085, p = .098, CI_{95\%} = [-0.016, 0.186]$ ). There was also no significant interaction effect of fairness and BJW-self on intrapersonal consistency ( $B = -0.099, p = .257, CI_{95\%} = [-0.271, 0.073]$ ).

*Direct and indirect effects of fairness on self-esteem via mediator variables.* This section addresses the mediation components of the analysis, which tests the effect of fairness on self-esteem via the mediating variables, perceived control and intrapersonal consistency. Direct and indirect effects are shown in Figure 3. Firstly, the direct effect of fairness on self-esteem was significant, albeit in a negative direction, which was unexpected ( $B = -0.230, p = .017, CI_{95\%} = [-0.417, -0.042]$ ). In terms of indirect effects via mediating variables, both perceived control ( $B = 0.486, p < .001, CI_{95\%} = [0.354, 0.618]$ ) and intrapersonal consistency ( $B = 0.596, p < .001, CI_{95\%} = [0.428, 0.764]$ ) significantly predicted self-esteem.

In regards to the direct effect of fairness on self-esteem, as noted above, the negative relationship was not expected. As can be seen in Table 2 above, the correlation between fairness and self-esteem was positive ( $r = .22, p = .002$ ). A follow-up simple linear regression analysis also indicated that fairness is a significant predictor of self-esteem ( $F(1, 196) = 9.482, p = .002$ ). However, with an  $R^2$  of .041, fairness is only explaining 4% of the variance in self-esteem. Nonetheless, the predictive value of fairness decreased significantly when combined with the mediator variables. As can be seen from the unstandardized regression coefficients ( $B$  values) in Figure 3, it can be suggested that perceived control and intrapersonal consistency are both better

predictors of self-esteem than fairness. The change in direction also indicates suppression effects. That is, with the addition of the mediating variables, the relationship between fairness and self-esteem changed direction, from a positive association to a negative association. Follow-up analyses testing each mediator separately indicated that the measure of intrapersonal consistency was responsible for the suppression effects.

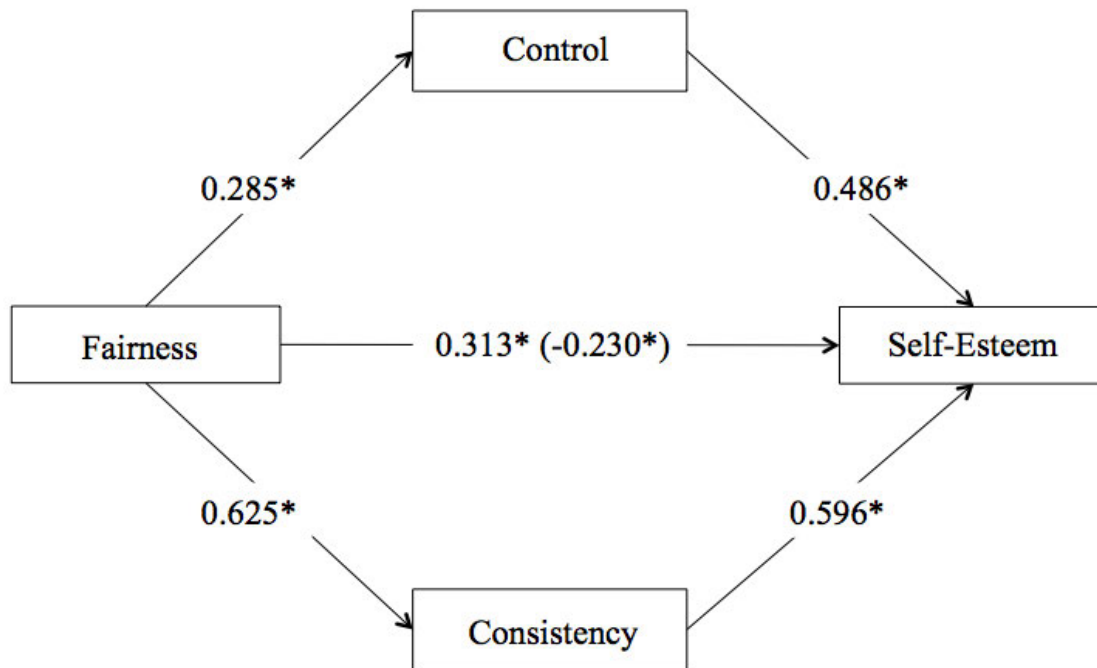


Figure 3. Direct and indirect effects of fairness on self-esteem. Unstandardized regression coefficients are shown. The unstandardized coefficient between fairness and self-esteem while controlling for perceived control and intrapersonal consistency is in parentheses. \* $p < .05$ .

*The interaction of fairness and BJW-self on self-esteem.* This section addresses the interaction between fairness and BJW-self on self-esteem, including the conditional direct effects of fairness on self-esteem. PROCESS model 8 allowed for testing the interaction of fairness and BJW-self on self-esteem. Recall that this portion of the model is a replication of the study by

Dalbert (1999). In terms of direct effects, BJW-self had no significant effect on self-esteem ( $B = 0.115$ ,  $p = .085$ ,  $CI_{95\%} = [-0.016, 0.246]$ ). The interaction between fairness and BJW-self on self-esteem was significant ( $B = 0.206$ ,  $p = .046$ ,  $CI_{95\%} = [0.003, 0.409]$ ). However, due to the suppression effects, the nature of this relationship was negative. Simple slopes analysis indicated that the negative association between fairness and self-esteem was significant at low levels of BJW-self (1 standard deviation below the mean,  $\beta = -0.388$ ,  $p = .001$ ) but not significant at high levels of BJW-self (1 standard deviation above the mean,  $\beta = -0.071$ ,  $p = .598$ ). A follow-up moderation analysis without the mediating variables indicated a positive relationship between fairness and self-esteem, which was significant at high levels of BJW-self ( $\beta = 0.448$ ,  $p = .005$ ), but not significant at low levels of BJW-self ( $\beta = 0.114$ ,  $p = .939$ ). These results are consistent with the hypotheses and indicate a successful replication of Dalbert (1999).

*Overview of moderated mediation for BJW-self and self-esteem.* This section addresses the conditional indirect effect of fairness on self-esteem via mediating variables at levels of BJW-self. This is the overall moderated mediation effect, as summarised in Table 3. There were no significant results. The index of moderated mediation indicates the extent to which indirect effects of the predictor variable on the outcome variable via mediating variables are equivalent at different levels of the moderator. When the confidence intervals of this index do not contain zero, it indicates that indirect effects at levels of the moderator are significantly different and thus there is a moderated mediation effect (Hayes, 2018). For self-esteem, the index of moderated mediation was not significant for either perceived control or intrapersonal consistency (the confidence intervals did contain zero, as can be seen in Table 3). While there was no significant overall moderated mediation as per the hypothesized model, the indirect effect of fairness on self-esteem via perceived control was greater at high levels of BJW-self compared to low BJW-

self, providing partial support for the hypothesized model.

### **3.5 Testing of the Moderated Mediation Model for BJW-Self and Self-Efficacy**

*Direct and indirect effects of fairness on self-efficacy via mediator variables.* Direct and indirect effects are shown in Figure 4. The direct effect of fairness on self-efficacy was not significant ( $B = -0.075$ ,  $p = .166$ ,  $CI_{95\%} = [-0.181, 0.031]$ ). In terms of indirect effects via mediating variables, both perceived control ( $B = 0.206$ ,  $p < .001$ ,  $CI_{95\%} = [0.131, 0.281]$ ) and intrapersonal consistency ( $B = 0.158$ ,  $p = .001$ ,  $CI_{95\%} = [0.062, 0.253]$ ) were significant and in a positive direction, as expected. Similar to the pattern of results regarding self-esteem, both perceived control and intrapersonal consistency were better predictors of self-efficacy than fairness. Note this effect with the associated  $B$  values. The  $B$  values for perceived control and intrapersonal consistency were greater than the  $B$  value for fairness. Note also the negative  $B$  value for the effect of fairness on self-efficacy. As with self-esteem, this suggests suppression effects. Also similar to the results from self-esteem, follow-up analyses indicated that the suppression effects were due to the mediator variable intrapersonal consistency.

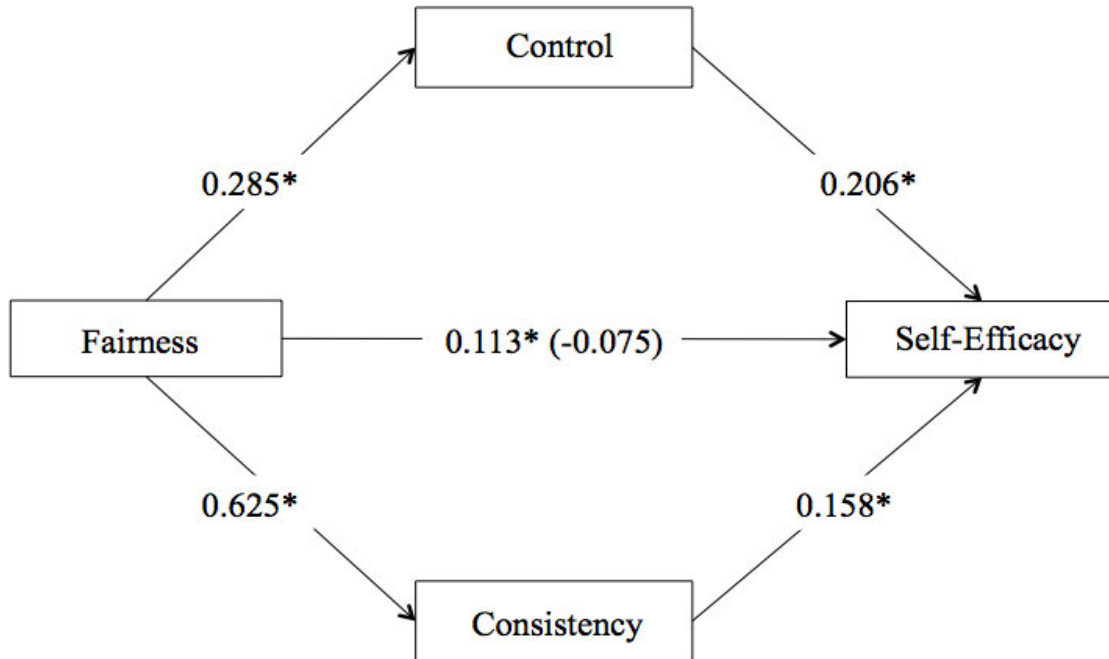


Figure 4. Direct and indirect effects of fairness on self-efficacy. Unstandardized regression coefficients are shown. The unstandardized coefficient between fairness and self-efficacy while controlling for perceived control and intrapersonal consistency is in parentheses. \* $p < .05$ .

*The interaction of fairness and BJW-self on self-efficacy.* The direct effect of BJW-self on self-efficacy was significant ( $B = 0.080$   $p = .034$ ,  $CI_{95\%} = [0.006, 0.155]$ ), however the interaction between fairness and BJW-self was not significant ( $B = 0.012$ ,  $p = .832$ ,  $CI_{95\%} = [-0.103, 0.128]$ ). In terms of the conditional direct effect of fairness on self-efficacy, BJW-self did not have a moderating effect. The effect of fairness on self-efficacy was not significant at low levels of BJW-self ( $\beta = -0.084$ ,  $p = .187$ ) or at high levels of BJW-self ( $\beta = -0.065$ ,  $p = .391$ ). Therefore, the relationship between fairness and self-efficacy did not significantly differ at levels of BJW-self.

*Overview of moderated mediation for BJW-self and self-efficacy.* As for the conditional indirect effects of fairness on self-efficacy via mediating variables at levels of BJW-self, there was no overall moderated mediation effect. The index of moderated mediation was not significant for either perceived control or intrapersonal consistency (the confidence intervals did contain zero, as can be seen in Table 3). Similar to the pattern of results from self-esteem, while there was no significant overall moderated mediation, the indirect effect of fairness on self-efficacy via perceived control was greater at high levels of BJW-self compared to low BJW-self.

Table 3

*Summary of moderated mediation models for Belief in a Just World Self*

	Self-Esteem <i>B</i> [CI <sub>95%</sub> LL/UL]	Self-Efficacy <i>B</i> [CI <sub>95%</sub> LL/UL]
<i>Direct effects of fairness on outcome variables</i>		
	-0.230* [-0.417, -0.042]	-0.075 [-0.181, 0.031]
<i>Effect of mediators on outcome variables</i>		
Perceived Control	0.486*** [0.354, 0.618]	0.206*** [0.131, 0.281]
Intrapersonal Consistency	0.596*** [0.428, 0.764]	0.158** [0.062, 0.253]
<i>Conditional direct effect of fairness on outcome variables by level of BJW</i>		
Low BJW	-0.376** [-0.592, -0.161]	-0.84 [-0.206, 0.038]
High BJW	-0.093 [-0.342, 0.156]	-0.065 [-0.208, 0.075]
<i>Conditional indirect effects of fairness through perceived control by level of BJW</i>		
Low BJW	0.089 [-0.016, 0.226]	0.038 [-0.008, 0.099]
High BJW	0.184 [0.047, 0.327]	0.078 [0.022, 0.146]
<i>Conditional indirect effects of fairness through intrapersonal consistency by level of BJW</i>		
Low BJW	0.414 [0.240, 0.641]	0.110 [0.041, 0.204]
High BJW	0.333 [0.169, 0.545]	0.088 [0.031, 0.165]
<i>Index of moderated mediation</i>		
Perceived Control	0.069 [-0.057, 0.193]	0.029 [-0.027, 0.087]
Intrapersonal Consistency	-0.059 [-0.210, 0.074]	-0.016 [-0.063, 0.018]

Note. \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

CI<sub>95%</sub> = 95% Confidence Intervals, LL = Lower Limit, UL = Upper Limit



### 3.6 Testing of the Moderated Mediation Model for BJW-Other and Self-Esteem

*The interaction of fairness and BJW-other on mediating variables.* Moderated mediation models for BJW-other are summarised in Table 4. In terms of direct effects on the mediating variables, BJW-other significantly predicted perceived control ( $B = 0.215, p = .001, CI_{95\%} = [0.085, 0.344]$ ), but did not significantly predict intrapersonal consistency ( $B = -0.007, p = .890, CI_{95\%} = [-0.102, 0.089]$ ). The interaction between fairness and BJW-other significantly predicted perceived control ( $B = 0.333, p = .003, CI_{95\%} = [0.119, 0.547]$ ). Simple slopes analysis also indicated that the effect of fairness on perceived control was significant for high BJW-other ( $\beta = 0.656, p < .001$ ), but not significant for low BJW-other ( $\beta = 0.115, p = .331$ ). This relationship can be seen in Figure 3 below. Looked at from another angle, the effect of BJW-other on perceived control was also significant at high levels of fairness ( $\beta = 0.416, p < .001$ ), but not significant at low levels of fairness ( $\beta = 0.013, p = .878$ ). There was no significant interaction effect of fairness and BJW-other on intrapersonal consistency ( $B = -0.147, p = .067, CI_{95\%} = [-0.305, 0.010]$ ).

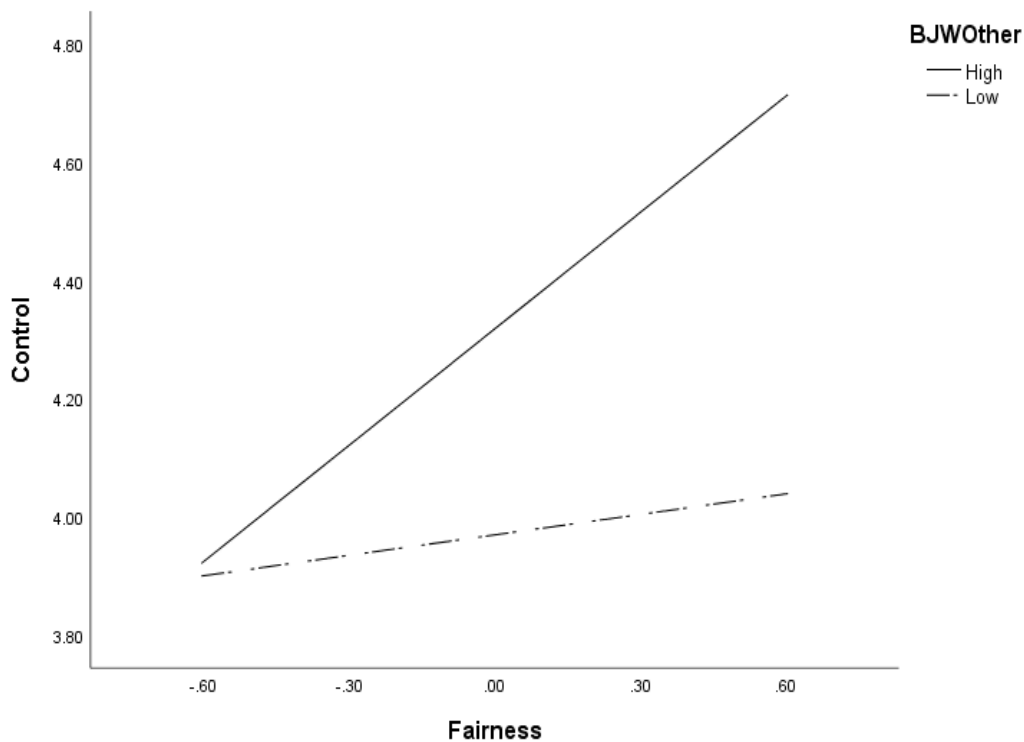


Figure 5. The interaction between fairness and perceived control at low and high BJW-other

*The interaction of fairness and BJW-other on self-esteem.* The direct effect of BJW-other on self-esteem was significant ( $B = 0.117, p = .047, CI_{95\%} = [0.002, 0.233]$ ), however the interaction between fairness and BJW-other was not significant ( $B = 0.033, p = .739, CI_{95\%} = [-0.161, 0.226]$ ). In terms of the conditional direct effect of fairness on self-esteem, a similar pattern of results to BJW-self was observed, in that the effect of fairness on self-esteem was suppressed in the overall moderated mediation model, and this was significant for low BJW-other ( $\beta = -0.271, p = .027$ ), but not significant for high BJW-other ( $\beta = -0.218, p = .084$ ).

*Overview of moderated mediation for BJW-other and self-esteem.* As for the conditional indirect effects of fairness on self-esteem via mediating variables at levels of BJW-other, there was a significant index of moderated mediation for perceived control (the confidence intervals

did not contain zero, as can be seen in Table 4). This indicates that the indirect effect of fairness on self-esteem via perceived control differs according to different levels of BJW-other. That is, the effect of fairness on self-esteem through perceived control was greater at high levels of BJW-other, and not significant at low levels of BJW-other. There was no significant moderated mediation effect for intrapersonal consistency.

### 3.7 Testing of the Moderated Mediation Model for BJW-Other and Self-Efficacy

*The interaction of fairness and BJW-other on self-efficacy.* The direct effect of BJW-other on self-efficacy was significant ( $B = 0.083$ ,  $p = .011$ ,  $CI_{95\%} = [0.019, 0.147]$ ), however the interaction between fairness and BJW-other was not significant ( $B = -0.103$ ,  $p = .057$ ,  $CI_{95\%} = [-0.210, 0.003]$ ). In terms of the conditional direct effect of fairness on self-efficacy, a similar pattern of results to all other models was observed, in that the effect of fairness was suppressed in the overall moderated mediation model. However unlike other models, this was not significant for low BJW-other ( $\beta = 0.018$ ,  $p = .790$ ) and significant for high BJW-other ( $\beta = -0.150$ ,  $p = .032$ ).

*Overview of moderated mediation for BJW-other and self-efficacy.* As for the conditional indirect effects of fairness on self-efficacy via mediating variables at levels of BJW-other, there was a significant index of moderated mediation for perceived control (the confidence intervals did not contain zero, as can be seen in Table 4). This indicates that the indirect effect of fairness on self-esteem via perceived control differs according to different levels of BJW-other. That is, the effect of fairness on self-efficacy through perceived control was greater at high levels of BJW-other, and not significant at low levels of BJW-other. There was no significant moderated mediation effect for intrapersonal consistency.

Table 4

*Summary of moderated mediation models for Belief in a Just World Other*

	Self-Esteem <i>B</i> [CI <sub>95%</sub> LL/UL]	Self-Efficacy <i>B</i> [CI <sub>95%</sub> LL/UL]
<i>Direct effects of fairness on outcome variables</i>		
	-0.245* [-0.431, -0.058]	-0.066 [-0.169, 0.037]
<i>Effect of mediators on outcome variables</i>		
Perceived Control	0.523*** [0.397, 0.649]	0.239*** [0.169, 0.308]
Intrapersonal Consistency	0.594*** [0.423, 0.766]	0.148** [0.053, 0.242]
<i>Conditional direct effect of fairness on outcome variables by level of BJW</i>		
Low BJW	-0.271* [-0.511, -0.031]	0.018 [-0.114, 0.150]
High BJW	-0.218 [-0.466, 0.30]	-0.150* [-0.287, -0.013]
<i>Conditional indirect effects of fairness through perceived control by level of BJW</i>		
Low BJW	0.060 [-0.064, 0.214]	0.027 [-0.032, 0.095]
High BJW	0.343 [0.208, 0.479]	0.156 [0.092, 0.231]
<i>Conditional indirect effects of fairness through intrapersonal consistency by level of BJW</i>		
Low BJW	0.456 [0.270, 0.735]	0.113 [0.039, 0.207]
High BJW	0.314 [0.167, 0.519]	0.078 [0.024, 0.151]
<i>Index of moderated mediation</i>		
Perceived Control	0.174 [0.054, 0.290]	0.079 [0.022, 0.144]
Intrapersonal Consistency	-0.088 [-0.250, 0.036]	-0.022 [-0.064, 0.007]

Note. \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

CI<sub>95%</sub> = 95% Confidence Intervals, LL = Lower Limit, UL = Upper Limit

## 4. Discussion

### 4.1 Summary of Findings

Dalbert (1999) found that behaving fairly towards others has a positive influence on self-esteem, especially when one believes that the world is a just place. In addition to attempting to replicate these results, the aim of the present study was to further explore the relationship between behaving fairly, belief in a just world and positive self-perception, as well as to propose potential mediating variables that help explain this relationship. It was hypothesised that (1) fairness would have an indirect effect on self-perception (i.e. both self-esteem and self-efficacy) through two potential mediators, perceived control and intrapersonal consistency; (2) the effect of fairness on each mediator would be moderated by BJW; and (3) the effect of fairness on self-perceptions would be moderated by BJW. Additionally, it was also expected that BJW-self would have a greater influence than BJW-other.

Hypothesis (1) was supported, however there were significantly different effects relating to each of the two mediators. While perceived control significantly mediated the relationship between fairness and self-perception, intrapersonal consistency had a significant suppression effect. That is, when intrapersonal consistency was controlled for, the effect of fairness on self-perception reversed from a positive association to a negative association. These suppression effects suggest that when intrapersonal consistency is controlled for, behaving fairly has a negative impact on self-perception.

Hypothesis (2) was also supported, however there were significant differences between BJW-self and BJW-other. Contrary to expectations, BJW-other was a significant moderator, while BJW-self was not. Moderated mediation models for BJW-other were also significant for perceived control, but not significant for intrapersonal consistency. In other words, the positive

effect of fairness on self-perception was explained by perceived control, and this was especially true when participants thought the world was a just place for other people.

Hypothesis (3) was also supported. This was the replication component of the study. Results indicate that behaving fairly towards others increases self-esteem, and that this was especially true when participants endorsed a strong BJW-self. That is, the more fairly a person behaves, the better their self-esteem, which is particularly poignant when they believe the world treats them fairly. Thus, there was a successful replication of Dalbert (1999).

Overall, results from moderated mediation analysis suggest that the more fairly a person behaves, the more positive their self-perception, and this is because behaving fairly encourages a person to feel in control. This effect is especially true when people believe that the world is a just place for other people. Further discussion of results, as well as possible explanations will be discussed in the following sections.

#### **4.2 The Effect of Fairness on Self-Perception**

The first hypothesis stated that fairness would have an indirect effect on positive self-perception through two potential mediators, perceived control and intrapersonal consistency. Results indicate that fairness has a positive influence on both self-esteem and self-efficacy, and that both perceived control and intrapersonal consistency significantly mediate this relationship. However, while both mediators were significant, it appears that they operate in vastly different ways.

In regards to the mediator variable perceived control, results indicate a significant partial mediation effect. When perceived control was added, the predictive value of fairness decreased significantly. This indicates that the positive influence of behaving fairly on self-perception can be explained by perceived control. That is, behaving fairly creates a sense of control, which in

turn has a positive effect on self-perception. While there is limited research that directly tests the relationship between behaving fairly, perceived control and positive self-perception, these results are consistent with the instrumental motive for fairness (Barclay et al., 2017). Instrumental motives emphasize the importance of control over outcomes. That is, people care about fairness because it provides a sense of control over their future, and allows them to be confident that they will receive beneficial outcomes. Such motives may increase the likelihood that people behave fairly towards others, with the hope of controlling future outcomes. This is consistent with the study by Converse et al. (2012), which found that participants were more likely to act virtuously ahead of an outcome over which they had little control.

In contrast, when intrapersonal consistency was controlled for, the effect of fairness on self-perception was reversed, suggesting suppression effects. As it has been noted, the relationship between fairness and self-perception was, on all other accounts, a positive relationship (e.g. positive correlation and positive simple regression). However, when intrapersonal consistency was controlled for, the relationship became negative. These results suggest that when intrapersonal consistency is taken into account, the effect of fairness on self-perception is suppressed, and as a result, behaving fairly *decreases* self-esteem. Possible explanations for these results will now be discussed.

#### **4.2.1 The Deleterious Effect of Intrapersonal Consistency**

The measure of intrapersonal consistency was developed to control for the potential effects of a congruency between an individual's values and behaviour. Because individuals may be behaving in ways that are consistent with their values, behaving fairly could result in increased positive self-perception. However as it has been noted, the opposite effect was found. When intrapersonal consistency was controlled for, the relationship between fairness and self-

perception became negative. Although this result could simply reflect a statistical anomaly, there may be a conceptual explanation for this finding. It could be the case that the effect of intrapersonal consistency has a cognitive dissonant effect. Cognitive dissonance theory refers to the psychological discomfort involved in a discrepancy between beliefs and behaviours (Festinger, 1957).

It could be that when people consider the consistency of their behaviours, they realise that they are not behaving consistently with their values, and as a consequence, behaving fairly no longer increases positive self-perception, but rather decreases it. This inconsistency between values and behaviours could be due to two reasons. The first is that the inconsistency between values and behaviours is caused by people realising that they don't always behave fairly towards others. Behaving fairly towards every person all of the time may not be a viable possibility. Thus, when people consider the extent to which they behave fairly, it primes them to realise that even though they value fairness, they don't always act fairly. As a result, the discrepancy between what they value and how they behave creates psychological discomfort and consequently they no longer see themselves as worthy and capable individuals.

The second reason for the lack of consistency between values and behaviours could be due to people believing they don't behave fairly enough. A cognitive dissonant effect could arise if people judge the fairness of their behaviour to be inadequate. Research has shown that prosocial acts are not sensitive to magnitude. That is, evaluations of selfish actions are viewed more negatively than equitable actions, but evaluations of increasingly selfless actions are not viewed as more favourable than equitable actions (Klein & Epley, 2014). Thus, highly prosocial behaviour is not viewed any more positively than equitable behaviour, a finding that is robust to cultural differences (Klein et al., 2015).



This may not seem meaningful, given that the present study measured fair behaviour, as opposed to selfless behaviour. However, a consistent finding is that people have a tendency to consider themselves as fairer than others (Dalbert, 1999; Farwell & Weiner, 1996; Messick et al., 1985). Consider as an example the results of the present study. While not directly measuring how people perceived their behaviour in relation to others, people still tended to rate their behaviour as highly fair. Ratings from the fairness measure were on average very high, and hence the overall sample had a significant negative skew. These findings, combined with the asymmetric evaluations of prosocial behaviour, may explain the unexpected deleterious effect of intrapersonal consistency. People believing that they are fairer than others, combined with the fact that increasingly fair behaviour is not viewed as meaningful, creates an incongruent relationship between how important people think fairness is and how fairly they actually behave. Thus, the observed decreases in positive self-perception may not necessarily occur because behaving fairly is inconsistent with values, but more so because behaving fairly is not consistent enough.

### **4.3 The Influence of Belief in a Just World**

The second hypothesis stated that the effect of fairness on each mediator would be moderated by BJW. Consistent with expectations, the results suggest that BJW has a significant moderating effect. However, what was not consistent with expectations was the significance of BJW-other and non-significance of BJW-self. Results also suggest that the moderating effect of BJW-other is significant for perceived control, but not significant for intrapersonal consistency. These results suggest that because of an increased sense of control, behaving fairly has a positive influence on self-perception, which is true when people believe the world is a just place for other

people. The unexpected significant effect of BJW-other may be due to either methodological and conceptual reasons.

In terms of a methodological explanation, the unexpected results for BJW-other could be due to idiosyncrasies of the fairness measure. While the measure was intended to quantify how people perceived the fairness of their own behaviour, many of the questions involved how other people are treated. For example, consider the questions “I try to treat all people equally”, and “I feel better when everyone gets a fair go”. While these questions attempt to determine how one feels about their own behaviour, they reflect how people might be treated in the world more generally. The impetus being that it may have encouraged people to think about the fate of others, as opposed to their own fates. While BJW-self focuses more on adaptive outcomes for the self, a key component of BJW-other is a consideration of the fates of others. It could be that the people who believe the world treats others fairly, and who treat people fairly themselves, are maintaining outcomes for other people and ensuring fair outcomes for those who deserve it. Given that the justness of other people’s fates is relevant because our own goal pursuits are meaningless if we cannot believe we live in a world where other people get what they deserve (Ellard et al., 2016), ensuring fair outcomes for others has the benefit of increasing a sense of personal control, and consequently increased positive self-perception.

In terms of conceptual reasons for the unexpected significant effect of BJW-other, there is evidence to suggest that different cultural backgrounds may be a contributing factor. A consistent finding within the literature is that people tend to endorse personal forms of BJW to a greater extent than general forms of BJW (Dalbert, 1999; Sutton et al., 2008; Sutton & Douglas, 2005). Research also consistently demonstrates that personal forms of BJW, in contrast to general forms, are more closely related to the theoretical benefits of BJW, such as self-esteem (Dalbert,

1999; Lipkus et al., 1996), coping with negative life events (Dalbert, 2001), goal-oriented behavior (Sutton & Winnard, 2007), and life satisfaction (Ucar et al., 2019). However, the tendency to endorse either dimension of BJW, as well the associated outcomes, may be influenced by certain cultural factors. For example, research has shown that the distinction between collectivistic and individualistic cultures may be significant when determining the influence of each dimension of BJW. Research by Wu et al. (2010) found that in contrast to populations from individualistic cultures, people from collectivistic cultures are more inclined to endorse the general dimension of BJW, and that this provides them with the resilience to confront harsh realities.

Consider the sample from the present study. Cultural backgrounds were varied, however a large portion (21%) of the sample consisted of people from Asian cultural backgrounds, many of which are often considered as collectivistic. Similarly, many individuals from European cultural backgrounds (15%) were also from cultures that are often considered as collectivistic (e.g. Serbia, Greece, Macedonia). Within collectivistic cultures, the needs and goals of the group are prioritized over the needs and desires of the individual. In such cultures, interdependencies between the self and the larger social context play a key role in an individual's identity. As such, one's sense of self depends on and is defined by those around them (Markus & Kitayma, 2010). When completing the BJW scales, those from collectivistic cultures may have been more likely to conflate their own fates with the fates of others, thus rating the BJW-other scale as more or equally as high as BJW-self. While the results indicate a higher mean score for BJW-self than for BJW-other, more than a third of the sample were likely from collectivistic cultures, which could have been the driving factor for why BJW-other was significant.

The third hypothesis stated that the effect of fairness on self-perceptions would be moderated by BJW. Recall that this portion of the study was the replication of Dalbert (1999). Dalbert found that personal BJW (e.g. BJW-self) significantly influenced the relationship between fairness and self-esteem. While moderated mediation models in the present study were more significant for BJW-other than for BJW-self, there was still a significant moderating effect of BJW-self on the relationship between fairness and self-esteem. Results suggest that the effect of fairness on self-esteem is more influential when people have high BJW-self, compared to when they do not have high BJW-self.

#### **4.4 Strengths**

Given the fundamental importance of replication in psychological research, the successful replication of Dalbert (1999) is a particular strength of this study. This strength is manifested in the measure of fairness that was used. As previously mentioned, the study by Dalbert utilized an experimental paradigm in order to produce several different groups with varying levels of fairness or unfairness perceptions. Given the issues that arise when attempting mediation analysis with a multicategorical predictor variable (see Hayes & Preacher, 2014), as well as the time restraints of an honours thesis, the present study instead measured fairness as a continuous variable. Despite the different methodological approaches, the present study still managed to replicate the results from the Dalbert study. The fact that similar results were found with different measures and a different methodology is a testament to the fairness measure that was developed.

Another strength of the present study was the sample that was generated. Most samples within psychological research comprise almost exclusively of university students, in particular psychology students. While having a uniform sample may ensure a certain amount of

consistency within a sample, it limits the generalisability of the results. The sampling methods employed in the present study sought to increase generalizability, by sampling not only from university students, but from the general population as well. As a result, the sample that was generated consisted of various different age groups and cultural backgrounds. Given that there was no intention of analysing differences between demographic characteristics, nor were the results expected to vary as a function of demographic variables, the diversity of the sample ensured that the results were generalisable and externally valid. Consequently, it can be suggested that the results were more indicative of a wider population, as opposed to the more traditionally used university sample.

#### **4.5 Limitations**

This study is not without limitations. Most importantly, as with all correlational research, there is limited ability to draw conclusions regarding causal relationships. Requirements of mediation analysis dictate that there should be a direct causal relationship between the predictor and the outcome variable. As such, it was assumed throughout the analysis that behaving fairly directly or indirectly influences self-perceptions. However, assuming direct causal relationships might be considered reductive, as such relationships may be much more complex than what is being assumed in the present study. For example, it is possible that people who have high self-esteem or a sense of self-efficacy may be happier, more sociable individuals, who are more inclined to treat other people benevolently. Similarly, in regards to the mediating effect of perceived control, it may be the case that people who generally feel more in control of their lives will also be happier, well adjusted individuals, who are better equipped to treat other people with fairness.

Additionally, the results relied exclusively on self-report data. While every effort was made to encourage honest responses from participants, the questions asked throughout the survey were prone to social desirability bias. This issue is particularly salient with the measure of fairness. This measure required participants to be honest about how they treat people. Social norms may pressure participants to answer in socially desirable ways, as some people might be unwilling to divulge that they do not treat others fairly. Evidence of social desirability bias might be observable in the results from the fairness measure, which had a significant negative skew. That is, participants tended to rate the fairness questions highly, indicating that they thought their behaviour to be very fair. This is not to say that people were not answering honestly and don't genuinely believe that they behave fairly towards others, but given the nature of the questions, the possibility of social desirability bias should be taken into account.

#### **4.6 Implications**

In terms of theoretical implications, the results from the present study provide information on the theory of belief in a just world. Historically, the adaptive nature of BJW has been more closely associated with BJW-self (Bartholomaeus & Strelan, 2019), while BJW-other has been more closely associated with the negative attitudes involved in blaming victims for unjust fates (Ellard et al., 2016). Results from the present study could help inform how BJW-other could potentially be beneficial in certain situations or under certain conditions, such as in the case of cultural differences.

In terms of applied implications, self-esteem is an important dimension of mental health and component of wellbeing. Research has shown that self-esteem is associated with a myriad of positive psychological outcomes, such as psychological adjustment and positive emotion (Leary & MacDonald, 2003). Self-esteem has also been found to act as a buffer against the detrimental

impact of stress on mental health, and as such is an important protective factor for depression and anxiety (Rosenberg, Schooler, Schoenbach & Rosenberg, 1995). Thus, it is important to understand self-esteem and recognize the mechanisms by which it can be impacted. More importantly, self-esteem is a state of mind that can be built upon by the development of certain skills (Robins, Trzesniewski, & Donnellan, 2012), and as such understanding how self-esteem can be improved and developed is an important area of research.

#### **4.7 Future Directions**

Given the results of the present study, ideas for future research could include a further exploration of the adaptive nature of BJW-other. Future research would need to disentangle the possible influence of cultural differences when regarding any possible benefits of BJW-other. Given the scope and time restraints of the present study, the concept of culture was not given the required attention in order to make sound inferences about its influence. Cultural background was measured with the intention of gathering demographic data and ensuring a generalisable sample. As such, cultural background was presented as an open-ended question, and was not expected to inform any differences within the results. The concept of culture is a highly nuanced and complex construct and requires a much more in-depth analysis than what the present study could allow. Thus any future research that focuses on the cultural influence on BJW should aim for a more methodical approach to measuring and defining culture.

Future research could also make use of experimental methodology in order to imply causation. This point is particularly salient for the results regarding intrapersonal consistency. As mediation analysis makes theoretical claims about causality, the lack of manipulation on the predictor variable fairness could be problematic. Future experimental research would be able to decipher whether intrapersonal consistency truly has a deleterious impact on self-perception, or

whether there is a different reason that is driving this relationship. Such research could determine whether the suppression effects were merely an artifact of statistical inference, or whether it is a real phenomenon deserving of further research attention.

#### **4.8 Conclusion**

The results from this study suggest that behaving fairly towards others has a positive influence on an individual's self-perception (i.e. both self-esteem and self-efficacy), which can be explained by a sense of control. The more fairly a person behaves, the more in control they feel, which consequently has a positive impact on their self-perception. Results also suggest that when people think about the consistency of their behaviour, fairness has a deleterious effect. When intrapersonal consistency is taken into account, behaving fairly decreases positive self-perception. The present study suggests that this is due to a cognitive dissonant effect, whereby individuals realise that they don't always behave fairly towards others, or that they don't behave fairly enough. In regards to the effect of belief in a just world, results suggest that when individuals believe the world to be a just place for others (as opposed to a just world for the self), the more their fair behaviour has an impact on their sense of control, and consequently on their self-perception. It is suggested that cultural differences may influence the way in which people view justice in the world, and that people from collectivistic cultures may be more inclined to believe that the world is a just place for other people. Future research is needed to either confirm or disconfirm the deleterious effect of intrapersonal consistency, as well as to disentangle the complex relationship between culture and BJW.



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## Appendix 1: Survey

## Attitudes and Beliefs About Justice

**Participant Information****PROJECT TITLE: Attitudes and Beliefs about Justice****HUMAN RESEARCH ETHICS COMMITTEE APPROVAL** [REDACTED]**PRINCIPAL INVESTIGATOR: Dr Peter Strelan****STUDENT RESEARCHER: Erynn Collins****STUDENT'S DEGREE: Honours Psychology**

Dear Participant,

You are invited to participate in the research project described below.

**What is the project about?**

This research project will investigate how people view the world and how they view their own behaviour, and the extent to which these views can be influential.

**Who is undertaking the project?**

This project is being conducted by Erynn Collins, under the supervision of Dr Peter Strelan. This research will form the basis for the Honours Degree of Bachelor of Psychological Science at the University of Adelaide.

**What am I being invited to do?**

You are being invited to complete the following online survey. You will be asked several questions about how you view justice in the world, how fairly you think you behave, and how much control you have in your life, as well as questions about how you feel about yourself and your ability to do things. Please be aware that these questions will be presented in English. Any participant not fluent in English is encouraged to contact the researcher for further assistance.

**How much time will my involvement in the project take?**

The survey will take approximately 15 minutes to complete.

**Are there any risks associated with participating in this project?**

You will be asked questions about your behaviour, how you view the world and how you view yourself as a person. If you do feel any distress or discomfort while answering these questions, please be aware that you are able to withdraw from the study at any time. Should you feel any significant distress after answering these questions, please be aware that Lifeline Crisis Hotline (phone 13 11 14) is a free counselling service available 24/7. For students from the University of Adelaide, the university offers free counselling services (phone 08 8313 5663). Also available is the University Crisis Line for out of hours support (phone 1300 167 654 or text 0488 884 197).

## Attitudes and Beliefs About Justice

**What are the potential benefits of the research project?**

Results from this study may benefit society by providing an understanding of attitudes and beliefs of justice and how these can affect a person.

**Can I withdraw from the project?**

Participation in this project is completely voluntary. If you agree to participate, you can withdraw from the study at any time.

**What will happen to my information?**

You will not be required to provide any personal information during the survey. The responses you provide will be completely confidential and anonymous. All recorded data will be kept on password-protected computers for a minimum of five years. The results will be collected and analysed as part of an honours thesis. Although there are no plans to reuse this data, please be aware that the data will be stored with the possibility of it being used for future research.

**Who do I contact if I have questions about the project?**

Dr Peter Strelan - peter.strelan@adelaide.edu.au

Erynn Collins - erynn.collins@student.adelaide.edu.au

**What if I have a complaint or any concerns?**

The study has been approved by the Human Research Ethics Committee at the University of Adelaide (██████████). This research project will be conducted according to the NHMRC National Statement on Ethical Conduct in Human Research 2007 (Updated 2018). If you have questions or problems associated with the practical aspects of your participation in the project, or wish to raise a concern or complaint about the project, then you should consult the Principal Investigator. If you wish to speak with an independent person regarding concerns or a complaint, the University's policy on research involving human participants, or your rights as a participant, please contact the Human Research Ethics Committee's Secretariat on:

Phone: +61 8 8313 6028

Email: hrec@adelaide.edu.au

Post: Level 4, Rundle Mall Plaza, 50 Rundle Mall, ADELAIDE SA 5000

Any complaint or concern will be treated in confidence and fully investigated. You will be informed of the outcome.

**If I want to participate, what do I do?**

If you wish to participate, click next to begin. By clicking next you agree to the above terms and provide consent to participate.



### Attitudes and Beliefs About Justice

Welcome!

Thank you for choosing to participate in this study.

You are now invited to complete the following survey. Each question will be presented in the form of a statement. By using the scales provided, please indicate the extent to which you agree/disagree with each statement. All of your responses will be anonymous and confidential. Please answer honestly and do not agonise over your responses.

Please be reminded that your participation is voluntary and you are free to withdraw at any time.

Thank you for your participation and cooperation.













Attitudes and Beliefs About Justice

7. These questions ask you about how you feel about your ability to do things. Please indicate the extent to which you agree with each statement. For each item, please choose one of the four options.

	Not true at all	Hardly true	Moderately true	Exactly true
I can always manage to solve difficult problems if I try hard enough	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If someone opposes me, I can find the means and ways to get what I want	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is easy for me to stick to my aims and accomplish my goals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am confident that I could deal efficiently with unexpected events	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Thanks to my resourcefulness, I know how to handle unforeseen situations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can solve most problems if I invest the necessary effort	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can remain calm when facing difficulties because I can rely on my coping abilities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I am confronted with a problem, I can usually find several solutions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If I am in trouble, I can usually think of a solution	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can usually handle whatever comes my way	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



### Attitudes and Beliefs About Justice

**Lastly, some questions about you..**

8. What is your age?

9. What is your gender?

- Male
- Female
- I do not identify with either

10. What is your ethnicity/cultural background?

11. If you are a student from the Psychology 1A research participation system, please enter your participation code (this is required to gain course credit).

### Attitudes and Beliefs About Justice

Thank you for completing this survey!

Should you feel any distress as a result of participating in this research, please be aware that Lifeline Crisis Hotline (phone 13 11 14) is a free counselling service available to you 24/7. Please do not hesitate to contact them. For students from the University of Adelaide, the university also offers free counselling services (phone 08 8313 5663). Also available for students is the University Crisis Line for out of hours support (phone 1300 167 654 or text 0488 884 197).

If anybody should like general feedback of the overall results of this study, please feel free to email me at [erynn.collins@student.adelaide.edu.au](mailto:erynn.collins@student.adelaide.edu.au). Please note that no individual feedback is able to be given, due to the anonymous nature of the survey.