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the Harshness Objection: Experimental Approach

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**Luck Egalitarianism, Relational Egalitarianism, and the Harshness Objection:  
Experimental Approach**

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*Abstract:*

Elizabeth Anderson accused luck egalitarianism of having harshness implications when it is adopted as a redistributive policy. Anderson supported democratic or relational egalitarianism that requires the satisfaction of basic capabilities for democratic

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relationships among citizens, regardless of their responsibility for their current positions. Subsequently, there has been a debate over luck egalitarianism and relational egalitarianism; however, these positions are fairly close by virtue of their reliance on our intuitions, a fact that Anderson's original arguments echo. This paper thus examines Anderson's arguments against luck egalitarianism and for democratic egalitarianism using an online survey method. The results show that, first, for ordinary people, the luck consideration is as important as the basic capabilities consideration. This finding runs contrary to Anderson's claim. Second, while real people consider the degree of compensation through the factors of causality (the degree of chosen results) and responsibility (the degree of responsibility for the consequences), the lack of basic capabilities directs them to determine how much victims of bad luck should be compensated. This suggests that the effort to reconcile luck egalitarianism and relational egalitarianism is on the right track. These findings are relevant to the recent shift of egalitarian philosophy.

## 1. INTRODUCTION

Distributive justice attracts much attention in our society. We are concerned with inequalities, especially those for which people are not responsible. Luck egalitarianism is a theory of distributive justice that reflects people's responsibility in determining how to redistribute valuable resources: the effects of luck, irreducible to chosen outcomes, should be alleviated through redistribution, whereas people should be held

responsible for being worse off because of their own choices.<sup>5</sup> This theory has received various criticisms. Among them, Elizabeth Anderson's criticism, the harshness objection (which accuses luck egalitarianism of having harsh implications when it is adopted as a redistributive policy), is the most famous and influential (Anderson 1999: 295–302). Since she made this criticism, there has been a debate over luck egalitarianism and Anderson's position, i.e., democratic or relational egalitarianism that requires the satisfaction of basic capabilities for democratic relationships among citizens, regardless of their responsibility for lapsing into their current positions.

This paper examines Anderson's arguments against luck egalitarianism and for democratic egalitarianism by looking at whether the harshness objection is counterintuitive to ordinary people and therefore luck egalitarianism is not more supportable for them than democratic egalitarianism. To do so, we conducted an online survey, because it could deliver a wide range and high number of samples at a reasonable cost. In other words, by using a survey method, we could test Anderson's claims in the light of ordinary people's reactions to cases involving the harshness implication.

Our study is organized as follows: Section 2 presents the background of the debate over luck egalitarianism and democratic or relational egalitarianism, with a

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<sup>5</sup> Luck egalitarianism typically includes the views of Arneson (1989; 1990), Cohen (1989), Rakowski (1991), Roemer (1998), and Dworkin (2000). While Dworkin (2002: 115–117) denies that his theory of resource egalitarianism can be viewed as luck egalitarianism, there is no denying that he is (largely) luck egalitarian in ways that bring the consideration of luck to the fore in distributive justice (Knight 2013: 924; Hirose 2014: 42; Lippert-Rasmussen 2016: 11).

focus on Anderson's original arguments. Section 3 explains our experimental design, including our method, materials, and results. Finally, section 4 contains a discussion on the results of our experiment, especially concerning the implications for the debate over luck egalitarianism and democratic or relational egalitarianism.

## 2. BACKGROUND

Luck egalitarianism is an influential theory of distributive justice. Its core idea is that distributive justice requires levelling the inequalities resulting from *brute luck*. Brute luck is not a matter of deliberate and calculated risks, which can be seen as *option luck* (Dworkin 2000: 73). Put another way, we can regard inequalities sensitive to option luck as the consequences of agents' own choices. According to luck egalitarianism, agents are responsible for the consequences of their own choices. Thus, luck egalitarians claim that, while compensating fully for the negative effects of brute luck, the government should deny compensation for those of option luck. Luck egalitarianism legitimatizes that differentiation.

Luck egalitarianism has been challenged in many ways. The most famous challenge is the *harshness objection*, which states that luck egalitarianism is too harsh in that it holds agents responsible for inequalities resulting from their own choices, even in cases where they are much worse off. This objection was posed by Anderson (1999: 295–302). To develop this objection, Anderson presumes Rakowski's (1991) "hard-line" form of luck egalitarianism and then raises eight ordinary cases that apparently render luck egalitarian policies counterintuitive to us. The case often referred to as representative of the harshness objection is a reckless driver's case: under the luck egalitarian scheme, a negligent, uninsured motorcycle rider who is severely

injured in a terrible accident is not cared for, given that motorcycle insurance can be purchased at a reasonable cost (Anderson 1999: 295–296).<sup>6</sup>

What is the source of the counterintuitiveness that bolsters the harshness objection? Our intuition against the harshness of luck egalitarian policies seems to bear upon the fact that, while some people are desperately needy and should be helped, luck egalitarianism denies any justice-oriented assistance to them on the grounds that they are victims of option luck, not brute luck (Voigt 2007: 393–394). Reflecting on this, Anderson (1999: 315) presents a theory of democratic equality as an alternative to luck egalitarianism, which aims to secure “the social condition of living a free life is that one stand in relations of equality with others.” Democratic equality enjoins a governmental duty owed to people who go without their basic needs being met, or, more precisely, basic capabilities that involve (potential) functionings to lead a free life, whether they are victims of option luck or not. Anderson believes that this theory fully covers the point of equality as a *relational* value: a society must respect people as equals in a socially cooperative scheme. She thus concludes that democratic egalitarianism is more supportable than luck egalitarianism.

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<sup>6</sup> In addition to the reckless driver’s case, which represents the abandonment of negligent victims, Anderson (1999: 295–302) raises seven other cases that respectively represent the problem of discrimination among the disabled, the problem of geographical discrimination among citizens, the problem of occupational discrimination, the problem of vulnerable caretakers, the problem of exploitation and the lack of a safety net, the problem of the abandonment of the prudent, and the problem of paternalism, with luck egalitarianism.

Since this argument was made, there has been a long-standing debate on the harshness objection to luck egalitarianism. In the first place, the harshness objection invites *pluralist* responses from some luck egalitarians: according to them, luck egalitarian justice is among the moral considerations that include a reference to basic needs. The harsh implications of luck egalitarianism can be avoided if relevant considerations are involved in the employment of redistributive compensation policies, such that all people's basic needs must be met while or before justice operates (Barry 2006: 99–101; Cohen 2008: 268–272; Knight 2009: 198–225; Segall 2010: 64–68; Tan 2012: 100–102). Among them, Tan's (2012: 102; cf. Author) luck egalitarianism is of much significance. His non-conflicting pluralist approach does not allow luck egalitarian justice to be overridden by other moral considerations; the salient role is assigned to each moral value by the moral division of labor, and so luck egalitarian justice operates just above the minimum decency threshold.<sup>7</sup> If this argument is successful, both the luck egalitarian consideration and the consideration of basic needs play distinct roles in different moral domains.

Moreover, egalitarian philosophers argue that luck egalitarianism and democratic or relational egalitarianism cannot be simply justified in a pluralist manner, but rather must be integrated in a consistent manner. From the luck egalitarian side, it is claimed that Anderson's proposed way of understanding luck egalitarianism is so narrow that

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<sup>7</sup> The moral division of labor originates from Rawls's argument that his principles of justice should be applied to social institutions, not to individuals and their actions, for which different principles are appropriate (Rawls 1971: 54). For this ideal, see Nagel (1991: 57–62), Scheffler (2010: Ch. 4), and Tan (2012: Ch. 3).

the harshness objection cannot refute more modest and sophisticated versions of it, such as those that not only allow other sources of moral obligation but also are grounded in, or internally accommodate, equal relations among moral persons, in terms of non-arbitrariness (Markovits 2007: 284–289), from the second-person point of view (Lippert-Rasmussen 2016: 201–205), or as democratic relational goods (Gheaus 2016).

A similar kind of argument was also developed from the relational egalitarian point of view. For example, Stemplowska (2011: 131–134) suggests that justice of a luck egalitarian sort can function as a side-constraint on claims of democratic equality. Schemmel (2011) argues that the distributive requirements, which are not far from those of luck egalitarianism, are necessary for the expression of respect for people's equal status in the relationship of social cooperation. Tomlin (2015: 168–179) maintains that if egalitarian social relationships are significant, relational egalitarians must support the personal value of living a good life (the view of goodness for which luck egalitarianism has argued); otherwise, relational egalitarians must be committed to the impersonal value of relationships, which seems too abstract and mysterious.

Obviously enough, the difference between luck egalitarianism and relational egalitarianism is not clear now; neither denies the importance of distributing goods that most luck egalitarians support and the value of equal relations among people that most relational egalitarians espouse. This is mainly due to the fact that no matter how sophisticated their understanding of luck egalitarianism and/or relational egalitarianism is, both positions have recourse to our intuitions about the harshness objection and the value of basic capabilities. More precisely, egalitarian philosophers presume that the intuitions in question are widely and firmly shared by ordinary people. Otherwise, the egalitarian philosophers neither appeal to a plurality of moral considerations, nor



contend that luck egalitarianism (or relational egalitarianism) can accommodate the relational value of equality (or distributive judgments of a luck egalitarian kind) in some way or other. However, is their (implicit) presumption plausible enough to advance their theoretical arguments concerning egalitarianism? Unless it is shown to be convincing, their theoretical achievements may be hollow.

This urges us to reconsider why Anderson's original arguments against luck egalitarianism and for democratic egalitarianism are appealing. To see why, we should attend to her use of the eight ordinary cases—such as the reckless driver case—in which luck egalitarian compensation policies seem unduly harsh. Those cases are not artificial and bizarre: they are *ordinary*. It seems that Anderson's original arguments echo the importance of ideals relative to practical problems in a society. As a matter of fact, Anderson (2009: 132–138; 2010: 6–8) claims that our ideals ought to respond to the presence of people's experience. However, arguments of this kind must be sensitive to the reliability of intuitions presumed by Anderson (and the other egalitarian philosophers). In other words, Anderson's original, simple, and powerful arguments must be such that the harshness objection and her support for democratic egalitarianism based on the value of basic capabilities fit well within ordinary people's intuitions.

The recent development of experimental studies can help us to see the reliability of the intuitions assumed by Anderson (and the other egalitarian philosophers), in terms of whether ordinary people have them. This is because experimental investigations involve the empirical examination of “the psychological processes underlying people's intuitions about central philosophical issues” (Knob and Nichols 2008: 3). Thus, real people's reactions to cases related to the harshness objection and to the value of basic capabilities can be an empirical test of Anderson's arguments. Besides, the findings

prompt us to reassess the theoretical development of egalitarian arguments in a down-to-earth manner, i.e., to see how acceptable their theoretical projections are in practice.

One might immediately object to the use of experiments to empirically test Anderson's arguments, for her arguments are *normative* in ways that should be insensitive to people's actual attitudes or judgments about egalitarian considerations in actual circumstances. To ward off this objection, let us focus on Anderson's methodology and metaphysics in political philosophy. As discussed above, Anderson underscores the importance of practical ideals in political philosophy. Based on her methodology, they thus should be tested in reality, not in purely imaginary possible worlds. Moreover, based on Anderson's (2004: 7–11) metaphysics in political philosophy, experience provides evidence for value judgments concerning ideals in such a way as to capture our expressions, emotional or otherwise. Her expressive theory of value pushes us to seriously consider the appearances that the experience presents as revealing people's valuations, unlike the non-expressivist theory of value that attributes value to objective states of affairs (Anderson 1993: Ch. 1). With her methodology and metaphysics in mind, we can reasonably say that Anderson cannot disregard the results of our survey experiment as empirical evidence for or against her arguments, because the findings reflect experience that appears through people's expressions towards the harshness objection and the value of basic capabilities.<sup>8</sup>

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<sup>8</sup> One might object that Anderson's methodology was not clearly employed in her argument on the harshness objection. However, her use of the eight ordinary cases, not purely hypothetical cases, can be reasonably interpreted as reflecting her methodology in political philosophy: that we should test ideals in

### 3. AN EXPERIMENTAL STUDY ON ANDERSON'S ARGUMENTS

The aim of our research was to empirically test Anderson's original claim regarding the harshness objection and the importance of meeting basic capabilities. To do so, we conducted an online survey, focusing on whether the harshness objection is indeed counterintuitive to real people and thus luck egalitarianism is not more supportable than democratic or relational egalitarianism. Our experiment was also intended to examine *how differently* people react to the harshness objection and to a case where basic capabilities are unsatisfied through reflecting on the recent debate over luck egalitarianism and relational egalitarianism. For this purpose, we conducted an online survey that focused on how ordinary people react to three main cases that seem to cover harsh treatment of people and so are apparently counterintuitive if they are left without help when their basic capabilities are unmet.

#### 3.1 Method

*Participants.* A private research company (Nikkei Research Inc.) was used to recruit subjects for our online survey. These subjects had voluntarily applied for membership to the research company and could choose to answer survey questions via the Internet at home. The instructions were presented on their computer. After the experiment, the company randomly chose some of the respondents and paid them a fee of 500 yen

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experience. Furthermore, should Anderson have no intention to adapt her methodology in this context, her intuitions concerning the eight problems she posed should be put to an empirical test, because she is not in a position to determine which intuitions are reliable.

(approximately US\$5–6). The survey took place from July 28 to August 4, 2016 with 1,869 subjects (850 females and 1,019 males). The mean age was 46.9 years (*SD*: 12.8, range: 18–72).

*Design and materials.* We constructed three scenarios (*Traffic Accident*, *Occupational Choice*, and *Residence*) in a two (types of luck: option luck, *Op*, and brute luck, *Br*) by two (types of capability: basic capability, *Bc*, and non-basic capability, *Nc*) within-subjects design. The scenarios were based on the three representative cases that Anderson posed against luck egalitarianism and for democratic egalitarianism: (1) *Traffic Accident* scenario: the case of a traffic accident for which a driver seems to be responsible; (2) *Occupational Choice* scenario: the case of a person aiming to become an actor/actress, for which the person seems to be responsible; and (3) *Residence* scenario: the case of damage to housing after a person built a house.<sup>9</sup> The scenarios can be described as follows:

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<sup>9</sup> One might wonder why we did not use the eight cases Anderson raised in presenting the harshness objection to luck egalitarianism. In response: First, we considered the burden on the respondents. Second, since some of Anderson's original cases are heavily dependent upon specific cultures, they could not be employed in our experimental study, which targeted Japanese respondents. Third, most importantly, the three cases, we believe, involve not only the hallmarks of the harshness objection against luck egalitarianism, but also the considerations of basic capabilities in favor of democratic egalitarianism.

*Traffic Accident:* A driver was injured in a car accident, when this person turned their car in a different direction.

*Occupational Choice:* After borrowing money, a person aimed to become an actor/actress, but that dream went unfulfilled.

*Residence:* A person built a house. After a while, an earthquake occurred in the area where the house was built. The house was then damaged.

Each scenario was followed by two (types of luck: option luck, *Op*, and brute luck, *Br*) by two (types of capability: basic capability, *Bc*, and non-basic capability, *Nc*) cases. For one, in the *Traffic Accident* scenario, four cases were described, as follows:

*OpNc:* Although the injury was minor and unnoticeable, it cost one million yen to avoid scarring. This person had no insurance, although he or she could afford it.<sup>10</sup>

*BrNc:* Although the injury was minor and unnoticeable, it cost one million yen to avoid scarring. This person had no insurance because he or she could not afford it.

*OpBc:* In order to avoid the loss of eyesight, it cost one million yen to have surgery. This person had no insurance, although he or she could afford it.

*BrBc:* In order to avoid the loss of eyesight, it cost one million yen to have surgery. This person had no insurance because he or she could not afford it.<sup>11</sup>

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<sup>10</sup> One million yen is approximately 10,000 US dollars.

<sup>11</sup> In this example, the four cases are ordered from option luck and non-basic capability (*OpNc*), brute luck and non-basic capability (*BrNc*), option luck and basic capability (*OpBc*), to brute luck and basic

The full text of all of the scenarios is available in the online supplementary materials.

*Procedure.* Participants completed the survey online, in their own time. They read a consent form and were assured of the anonymity of their data. After granting consent they started to read the four scenarios and were then asked to respond to the following three questions:

1. Do you think that this person's situation is a result of his or her own choice? (0 *definitely disagree* to 6 *definitely agree*)
2. Do you think that this person is responsible for his or her situation? (0 *definitely disagree* to 6 *definitely agree*)

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capability (*BrBc*). Since the order of cases may affect participants' answers, we implemented four other orders to control possible order effects as much as possible: *BrNc*→*OpNc*→*BrBc*→*OpBc*, *OpBc*→*OpNc*→*BrBc*→*BrNc*, *OpNc*→*OpBc*→*BrNc*→*BrBc* and *OpBc*→*OpNc*→*BrBc*→*BrN*. In the first and second pairs of every order, one condition was intentionally implemented as identical; for example, in *BrNc*→*OpNc*→*BrBc*→*OpBc*, while between *BrNc* and *OpNc* the *Nc* condition was set as common, between *BrBc* and *OpBc* the *Bc* condition was set as common. Theoretically, there were 24 orders (4 X 3 X 2 X 1) in total, but we could not prepare every order mainly because the number of participants was limited. However, we postulated that the prepared five orders enabled the participants to compare the cases easily, because in these orders, the participants would be aware of a different condition of juxtaposed texts. For example, in the face of *BrBc* and *OpBc* texts, they could detect that the luck-type condition was different between the two texts.

3. How much does this person incur the burden of cost for his or her treatment?<sup>12</sup>  
(from 0% to 100%, 11 scales)

These three questions were intended to reflect the following three factors, respectively:

*Causality*: A question about the extent to which the consequence is chosen.

*Responsibility*: A question about the extent to which the person is responsible for the consequence.

*Self-burden*: A question about the extent to which the person should bear the expenses due to the consequence.

We asked these three questions to find out how differently real people reacted to the harshness of victimizing option bad luck (compared to victimizing brute bad luck) and a situation where basic capabilities went unmet (compared to a case where non-basic capabilities went unmet). We expected the findings to reveal how their intuitions worked and whether they significantly affected their determination of the degree to which a person should be compensated for an unlucky loss.

Recent experimental studies suggest that people's moral decisions may vary depending on available time and/or on incitement to answer swiftly or to deliberate thoroughly (Suter and Hertwig 2011; Paxton et al. 2011). So, in addition to the baseline condition, we prepared two other conditions to control for that effect: while participants

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<sup>12</sup> The wording differed slightly in each scenario. The above question related to the *Traffic Accident*.

in the intuition-sensitive condition were instructed to answer all questions as quickly and intuitively as possible, in the deliberation-sensitive condition, participants were told that they could take as much time as they desired to deliberate.

### 3.2 Results

For all three contexts, *Traffic Accident*, *Occupational Choice*, and *Residence*, there were significant effects of brute luck (*Br*) versus option luck (*Op*) conditions, *the luck-type conditions*, on judgements concerning *Causality*, *Responsibility*, and *Self-burden*. In comparing basic capabilities (*Bc*) and non-basic capabilities (*Nc*) conditions, for *the capability-type conditions*, similar results were observed, but the effects were not as clear as those given by the luck-type conditions.

Let us explain the results using the following tables.

Measure (mean)	Conditions			
	OpBc	BrBc	OpNc	BrNc
<b><i>Traffic Accident</i></b>				
Causality	5.6	4.9	5.9	5.1
(sd)	(1.2)	(1.4)	(1.1)	(1.3)
Responsibility	5.9	5.2	6.0	5.3
(sd)	(1.1)	(1.2)	(1.0)	(1.2)
Self-burden (%)	84	70	87	73
(sd)	(24)	(28)	(22)	( 28)
<b><i>Occupational Choice</i></b>				
Causality	6.0	5.1	6.1	5.2
(sd)	(1.0)	(1.4)	(1.0)	(1.4)
Responsibility	5.9	5.3	6.1	5.3
(sd)	(1.0 )	(1.3)	(1.0)	(1.2)
Self-burden (%)	92	82	93	85
(sd)	(18)	( 24 )	(17)	(23)
<b><i>Residence</i></b>				
Causality	5.3	4.1	5.6	4.1
(sd)	(1.3)	(1.7)	(1.3)	(1.7)
Responsibility	5.1	4.0	5.4	4.0
(sd)	(1.4)	(1.6)	(1.3)	(1.7)
Self-burden (%)	77	63	82	66



(sd)	(25)	(30)	(24)	(30)
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Table 1. Ratings of “agreement” responses to the two questions, *Causality* and *Responsibility*, and the percentage of *Self-burden*.

Table 1 shows that, on the one hand, the results of the t-test on the means of the seven-point scales of the two questions, *Causality*, *Responsibility*, and the percentage of *Self-burden*, indicated highly statistically significant differences between option luck and brute luck (*OpBc* vs. *BrBc* conditions and *OpNc* vs. *BrNc* conditions) in all three scenarios (all p values <.001). On the other hand, the t-test results on the capability-type conditions (*OpBc* vs. *OpNc* and *BrBc* vs. *BrNc*) revealed that the effect of the capability-type conditions was not as evident as that of the luck-type ones. In *Traffic Accident*, the effect of the capability-type conditions on *Causality* (*OpBc* vs. *OpNc* and *BrBc* vs. *BrNc*) was significant (p value <.05). In *Occupational Choice*, the effect on *Responsibility* (*OpBc* vs. *OpNc*) was significant (p value <.01). In *Residence*, the effect on *Causality*, *Responsibility*, and the percentage of *Self-burden* (*OpBc* vs. *OpNc*) was significant (p value <.01).

To investigate what determines the degree to which a person should bear costs by themselves, we conducted a multiple regression analysis where the dependent variable was respondents’ answers to *Self-burden*. We obtained two interesting findings. First, the effects of the luck- and capability-type conditions on people’s judgments about how much the victims should be compensated were significant. Second, the consideration of luck exerted effects on people’s judgments on *Self-burden* through the mediation of *Causality* and *Responsibility*, whereas the consideration of basic capabilities more directly influenced people’s judgments on *Self-burden*.

The results of the statistical examinations were as follows:

Dependent variable: Self-burden		
Independent variable	Model	
	Model 1 (without Causality and Responsibility)	Model 2 (with Causality and Responsibility)
Constant	6.09 *** (0.08)	1.27 *** (0.08)
Brute Luck	-0.80 *** (0.03)	-0.06 * (0.03)
Non-Basic Capability	0.53 *** (0.03)	0.41 *** (0.03)
Deliberation	0.02 (0.04)	0.04 (0.03)
Intuition	-0.13 *** (0.04)	-0.08 * (0.03)
Traffic accident	0.37 *** (0.04)	-0.36 *** (0.03)
Occupational choice	1.16 *** (0.04)	0.22 *** (0.03)
Age	0.04 *** (0.00)	0.02 *** (0.00)
Female	0.00 (0.03)	0.16 *** (0.03)
OrderBr	0.11 * (0.05)	0.13 *** (0.04)
OrderBC	-0.13 ** (0.04)	0.04 (0.04)
OrderC	-0.03 (0.05)	0.08 * (0.04)
Causality		0.37 *** (0.02)
Responsibility		0.70 *** (0.02)
Number of observations:	22428	22428
R <sup>2</sup> :	0.110	0.391
AIC:	102970.1	94459.78
BIC:	103074.4	94580.05

Significance codes: \*\*\* < 0.001 < \*\* < 0.01 < \* < 0.05 < . < 0.1

Table 2. Regression analysis of *Self-burden*<sup>13</sup>

<sup>13</sup> The *Brute Luck* variable was a dummy variable, which was coded as 1 if a subject answered in the brute luck condition, and as 0 for answers in the optional luck condition. The *Non-Basic Capability* variable was a dummy variable, which was coded as 1 if a subject answered in the non-basic capability condition, and as 0 for answers in the basic capability condition. The *Deliberation* variable was a dummy

The estimated impact of the determinants of *Self-burden* is shown in Table 2. The results of Model 1 indicated that both the luck- (*Br* or *Op*) and capability-type (*Bc* or *Nc*) conditions significantly influenced *Self-burden*: while *Self-burden* decreased by 8.0% in the brute luck condition compared to the option luck condition (represented by the variable *Brute Luck*), it increased by 5.3% in the non-basic capability condition compared to the basic capability condition (represented by the variable *Non-Basic Capability*).<sup>14</sup> These results are consistent with those shown in Table 1. We then constructed Model 2, which involved two additional variables: respondents' answers to the two questions, *Causality* and *Responsibility*. Table 2 shows that the ratio of respondents' answers concerning *Causality* and *Responsibility* was significantly effective on *Self-burden*: *Causality* increased by 3.7% and *Responsibility* by 7.0%. In

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variable, which was coded as 1 if a subject read the deliberation version text, and as 0 if otherwise. The *Intuition* variable was a dummy variable, which was coded as 1 if a subject read the intuition version text, and as 0 if otherwise. *Traffic Accident* was a dummy variable, which was coded as 1 if a subject read the *Traffic Accident* scenario, and as 0 if otherwise. *Occupational Choice* was a dummy variable, which was coded as 1 if a subject read the *Occupational Choice* scenario, and as 0 if otherwise. The *OrderBr* variable was a dummy variable, which was coded as 1 if the questions were arranged in the following order: *BrNc*, *OpNc*, *BrBc*, and *OpBc*. The *OrderBC* variable was a dummy variable, which was coded as 1 if the questions were arranged in the following order: *OpBc*, *OpNc*, *BrBc*, and *BrNc*. The *OrderC* variable was a dummy variable, which was coded as 1 if the questions were arranged either in the order *OpNc*, *OpBc*, *BrNc*, and *BrBc*, or *OpBc*, *OpNc*, *BrBc*, and *BrNc*.

<sup>14</sup> These variables were dummy variables. See note 9.

other words, according to Model 2, the three variables have a significant relation, so that the more *Causality* and *Responsibility*, the more *Self-burden*.<sup>15</sup>

It is important to note that the inclusion of *Causality* and *Responsibility* influenced the effects of the luck- and capability-type conditions on *Self-burden* in a radically different manner. As Table 2 shows, while the effect of *Brute Luck* was reduced dramatically from -.80 to -.06 and its significance level in Model 2 was lower than that in Model 1, the effect of *Non-Basic Capability* remained almost unchanged (reduced slightly from .53 to .41) and its significance level remained the same (p value < .001). These results can reasonably be interpreted as indicating that the intervening variables, *Causality* and *Responsibility*, “mediated” the relationship between *Brute Luck* and *Self-burden* more strongly than that between *Non-Basic Capability* and *Self-burden*.

To examine the effects of the mediation in question, we conducted a regression analysis of the effects of the luck- and capability-type conditions on *Causality* and *Responsibility*. The results of this regression analysis are shown in Table 3.

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<sup>15</sup> Statistically speaking, Model 2 was significantly better than Model 1 in terms of the AIC and BIC: A likelihoods ratio test showed that  $\chi^2 = 8514.3$  and the p value < 2.2e-16.

Independent variable	Dependent variable	
	Causality	Responsibility
Constant	4.62 *** (0.04)	4.45 *** (0.04)
Brute Luck	-0.74 *** (0.02)	-0.66 *** (0.02)
Non-Basic Capability	0.10 *** (0.02)	0.12 *** (0.02)
Deliberation	-0.01 (0.02)	-0.02 (0.02)
Intuition	-0.05 * (0.02)	-0.05 * (0.02)
Traffic accident	0.49 *** (0.02)	0.79 *** (0.02)
Occupational choice	0.76 *** (0.02)	0.94 *** (0.02)
Age	0.01 *** (0.00)	0.02 *** (0.00)
Female	-0.13 *** (0.02)	-0.16 *** (0.02)
OrderBr	0.00 (0.03)	-0.03 (0.02)
OrderBC	-0.16 *** (0.02)	-0.16 *** (0.02)
OrderC	-0.08 ** (0.03)	-0.11 *** (0.02)
Number of observations:	22428	22428
R <sup>2</sup> :	0.137	0.165
AIC:	76607.05	75547.89
BIC:	76711.28	75652.13

Significance codes: \*\*\* < 0.001 < \*\* < 0.01 < \* < 0.05 < . < 0.1

Table 3. Regression analysis of *Causality* and *Responsibility*

Table 3 clearly shows that the effect of *Brute Luck* on *Causality* (-.74) and *Responsibility* (-.66) was much stronger than that of *Non-Basic Capability* on *Causality* (.1) and *Responsibility* (.12). This support for the mediation effects of *Causality* and

*Responsibility* may well push us to see the different roles of the luck and basic capabilities considerations in our moral thinking. We revisit this in the next section.

#### 4. DISCUSSION

Our experiment was designed to test Anderson's original arguments based on the harshness objection and the ideal of democratic equality. Our study was also intended to examine how real people's intuitions work and whether they significantly affect their determination of the degree to which victims should be compensated for an unfortunate loss.

First, our findings showed that the respondents were sensitive not only to the victimization of basic capabilities measured by comparison to that of non-basic capabilities (the capability-type conditions), but also to that of option bad luck measured by comparison to that of brute bad luck (the luck-type conditions): as discussed, the results were significant in *Traffic Accident*, *Occupational Choice*, and *Residence*. Given the data, both the luck- and capability-type conditions seem to significantly influence how much victims are compensated for their unfortunate loss. Evidently, these results do not support Anderson's arguments that the harshness of victimizing option bad luck is so distinct (compared to the counterintuitiveness of victimizing those whose basic capabilities are unmet) that luck egalitarianism cannot be more supportable than democratic egalitarianism. It seems that real people attach importance to the consideration of luck as well as that of basic capabilities, even in cases where the situation involves an unfortunate loss. Hence, we can reasonably say that our findings run contrary to Anderson's claim that luck egalitarianism is simply unacceptable in unfortunate situations.

Second, and more interestingly, our study suggests that the respondents tended to take into account the luck and basic capabilities considerations in different ways, when they determined the extent to which paid expenses stemming from unfortunate consequences should be borne individually. As shown in Table 2, the consideration of luck had significant effects on people's reaction to the chosen consequences, on people's judgments about the degree of responsibility, and on the extent to which they thought compensation should be given, whereas the consideration of basic capabilities more directly influenced the degree to which they thought the victims should be compensated. These findings can reasonably be interpreted as evidence that people's ways of making evaluations about how much the victims of misfortune should be compensated differ significantly between the luck and basic capabilities considerations: while people consider the degree of compensation in light of both the distinction between brute luck and option luck and of whether the victims were responsible for the unfortunate consequence, the lack of basic capabilities directs them to determine how much the victims should be compensated.

The implication of these results for the recent debate on egalitarianism is clear and important: the pluralist luck egalitarian arguments that attempt to embrace the value of social relationships seem to match people's intuitions and are stable when applied to actual circumstances. In particular, our findings seem to reinforce Tan's argument for the moral division of labor, because real people do engage in the moral division of labor in making evaluative judgments in light of egalitarian considerations, i.e., the consideration of luck and basic capabilities. Moreover, if, as recent egalitarian philosophers argue, the relational aspect can be incorporated into the luck egalitarian framework in a consistent manner, then this is an empirically supportable integration.

Our findings do not simply go against Anderson's original arguments, but also suggest that efforts to reconcile luck egalitarianism and relational egalitarianism are on the right track: Provided that we pursue the relevant egalitarian ideals in practice, we should respect both the redistribution of goods that luck egalitarians endorse and the relational value of equality. To say the least, the results of our experimental study indicate that egalitarian philosophers who favor Anderson's democratic egalitarianism should not recant relevant conceptions of a luck egalitarian kind.

One might claim that our survey experiment, using the three cases *Traffic Accident*, *Occupational Choice*, and *Residence*, is irrelevant and thus of no use, for there is a distinct problem with Anderson's use of the impressive cases against luck egalitarianism and for democratic egalitarianism: they are so context-sensitive that they cannot be immune to so-called *framing effects*, the effects of describing intentionally similar cases differently (Tversky and Kahneman 1986). As a matter of fact, the differential effects of the three scenarios on *Causality*, *Responsibility*, and *Self-burden* were significant (see Tables 2 and 3). So, as the objector might say, we should have used *purely hypothetical cases* such as the trolley case for our experimental study, with the aim of testing whether our moral intuitions support luck egalitarianism and/or relational egalitarianism.

In response, first, it is important to note that experimental studies have found framing effects on people's judgments about cases of moral dilemma even in purely hypothetical cases (Sinnot-Armstrong 2008: 52–67). For example, in several experimental studies, subjects reacted differently to extensionally different descriptions of the trolley case (Petrinovich and O'Neil 1996; Haidt and Baron 1996; Rai and Holyoak 2010). These findings suffice us to question the objector's belief that purely



hypothetical cases lead people to make unbiased judgements in light of their moral intuitions. Second, and more importantly, avoiding the effects mentioned above is of little relevance to our research; the aim of our experimental study was to test *Anderson's original arguments*, which unavoidably involved the rich context of people's intuitive judgments. Recall that Anderson used eight ordinary cases, all of which were given different descriptions for eliciting people's intuitions against luck egalitarianism and for democratic egalitarianism. From this it follows that using context-sensitive cases related to the original cases by Anderson is no problem at all. If the objector still contends that the context-sensitivity of the cases has tricky effects on the examination of whether Anderson's claim is reasonable or not, he or she should bear the burden of demonstrating the effects in question.

In conclusion, our experimental study showed the empirical reliability of philosophers' intuitions about the roles of the luck egalitarian and basic capabilities considerations in evaluating distributive policies. We believe that this is very relevant to assessing the recent trend of egalitarianism.

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**Online Supplementary Materials for:**

## Testing Anderson: Luck Egalitarianism, Relational Egalitarianism, and the Harshness Objection

This file contains the full text of all scenarios.

For *Traffic Accident*, the scenario was that “a driver was injured in a car accident, when a person turned their car in a different direction”; four cases were described, as follows:

*OpNc (Option Luck and Non-Basic Capabilities)*: Although the injury was minor and unnoticeable, it cost one million yen to avoid scarring. This person had no insurance, although he or she could afford it.<sup>16</sup>

*BrNc (Brute Luck and Non-Basic Capabilities)*: Although the injury was minor and unnoticeable, it cost one million yen to avoid scarring. This person had no insurance because he or she could not afford it.

*OpBc (Option Luck and Basic Capabilities)*: In order to avoid the loss of eyesight, it cost one million yen to have surgery. This person had no insurance, although he or she could afford it.

*BrBc (Brute Luck and Basic Capabilities)*: In order to avoid the loss of eyesight, it cost one million yen to have surgery. This person had no insurance because he or she could not afford it.

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<sup>16</sup> One million yen is approximately 10,000 US dollars.

For *Occupational Choice*, the scenario was that “after borrowing money, a person aimed to become an actor/actress, but that dream went unfulfilled”; four cases were described, as follows:

*OpNc*: The amount of debt is one million yen. To pay back the debt, the person must sell his or her large motorcycle. Riding the bike is his or her hobby. The person wanted to become an actor/actress.

*BrNc*: The amount of debt is one million yen. To pay back the debt, the person must sell his or her large motorcycle. Riding the bike is his or her hobby. The person grew up in a family where becoming an actor/actress was natural, so he or she aimed to become an actor/actress.

*OpBc*: The amount of debt is one million yen. To pay back the debt, the person must save a great deal of money on the groceries necessary to keep him or her healthy. The person wanted to become an actor/actress.

*BrBc*: The amount of debt is one million yen. To pay back the debt, the person must save a great deal of money on groceries necessary to keep him or her healthy. The person grew up in a family where becoming an actor/actress was natural, so he or she aimed to become an actor/actress.

For *Residence*, the scenario was that “a person built a house. After a while, an earthquake occurred in the area where the house was built. The house was then damaged”; four cases were described, as follows:

*OpNc*: The wine cellar in the basement was damaged. It costs one million yen to repair it. This person was well aware that earthquakes often struck in the area.

*BrNc*: The wine cellar in the basement was damaged. It costs one million yen to repair it. No one knew that earthquakes often struck in the area.

*OpBc*: The roof was completely destroyed. It costs one million yen to repair it. This person was well aware that earthquakes often struck in the area.

*BrBc*: The roof was completely destroyed. It costs one million yen to repair it. No one knew that earthquakes often struck in the area.