学　位　論　文

題目　An Empirical Study of Protected Values and Public Acce ptance around Infrastructure Projects in Indonesia

指導教員　　羽鳥　剛史

愛媛大学大学院理工学研究科博士後期課程
生産環境工学専攻環境建設工学　コース

氏名　　IRWAN SETIAWAN

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CHAPTER 1

Introduction

1.1. Modernization and trends in infrastructure development in Indonesia

Indonesia has achieved significant modernization through the 70s to the 90s in the twentieth century which rendered the country into a member of second-generation NICs (Newly Industrializing Countries). The modernization in Indonesia was originally to emphasize the agricultural sector with efforts through intensification, diversification, extensification and verification of agriculture to lead food self-sufficiency (Asnawati, 2019). Then it was continued to improve the education, industry, trade, service, food technology, political system, defense, and security, as well as traffic facilities and infrastructure. Thus, Indonesian economy that was highly dependent on agriculture has changed into a more balanced economy in which the share of manufacturing (a type of industry) exceeds that of agriculture. This also implies that Indonesia lessened its traditional dependency on primary exports.

After economic reformation in modernization had been made, the other challenges and opportunities in Indonesia were to increase urbanization to provide greater prosperity and inclusion. To ensure that urbanization is able to work for all Indonesians, central and local governments need to cooperate in establishing policies that achieve some objectives. Some of the purposes are to integrate between places, cover investing in improved transportation networks and policies and leverage the supply of affordable urban housing. Integration promotes mobility and generates inclusiveness.

Although the modernization has no direct impact to developing infrastructure, it has greatly improved the “hard and soft” infrastructures. The hard infrastructures are those such as roads, airports, bridges, houses, electrical power, and garbage disposal facilities, and the soft ones are those such as social welfare, healthcare, and participation in infrastructure programs or projects. Progress has been made by several objective standards. A number of high-profile infrastructure projects are being completed, particularly in Java and Sumatera islands. New reformations which have been made such

as infrastructure investment need to be much improved by the business climate and by deeper tax reform.

In year 2017, the Public Works and Public Housing Ministry plans to focus on building infrastructure in four sectors next year, namely transportation, food supply, waste management and housing. The ministry is set to obtain Rp 106.9 trillion from the proposed 2018 budget once it is approved, the highest amount of all ministries and government institutions. Of that figure, Rp 41.3 trillion would be allocated to building new roads and bridges as well as maintaining existing ones, while another Rp 37.3 trillion was earmarked for the construction of dams and irrigation networks, said Adang Saf Ahmad, a member staff of the Public Works and Public Housing Minister.

1.2. Democratization and citizen participation in Indonesia

Indonesia's democratization was initiated in the early 1980s. The *orde baru* government was ready to turn its attention to a series of economic reformations that slowly transformed the economy and laid the basis for a decade of robust growth (Gyda, 2012). Besides economic reformion, the bureaucratic capitalism system, which existed in the country, was strengthened during the years of Suharto; there were many reforms in policies, both military and business. Participation of citizens in Suharto's period was very low, most people only followed the government's will and almost all development projects were implemented by the government using top-to-bottom systems. Furthemore it took almost ten years to achieve the expected level of development. It was contrasted to the scholarly critique of the deficits of Indonesian democracy since the transition to democracy in 1998, focusing on links between democracy and civic agreement as indicators of a flourishing democracy, evident in the general- and specific-context literature on democracy (Gyda, 2012). Democratic reforms and the elites had changed and been allowed to maintain the integrity of the country and give encouragement to the transition of bureaucratic capitalism to oligarchic capitalism. The literature on participatory development makes similar kinds of assumptions regarding the effect of popular and civic engagement on democracy. For example, the societies' participation in the

process of development planning and decision-making provides an arena for bottom-up democratic governance which was noted from a World Bank report (Guggenheim et al., 2004). At the local level, civic engagement will enable the creation of trust-networks and cooperation that strengthens a community's social capital, thus creating necessary relationships among people who work in government and people in civil society (Putnam et al., 1993).

The fundamental value of community participation in Indonesia should not be understood as an entirely new trend. During the period, local communities and villages in Indonesian social structure were identified, streamlined and reformed to represent 'culture' and 'tradition' (Sidel, 2007, pp.31-32). The ideas of *gotong royong* (mutual aid) and *musyarawah* (rule by consensus) not only figured prominently in ethnographic accounts of the Indonesian village (desa) and urban neighborhoods (kampung), but were used to abbreviate the New Order bureaucracy from the state down to the village and neighborhood level (Antlöv & Cederroth, 1994; Pemberton, 1994, pp.238-39).

In the last decade, the launching of infrastructure packages, and the introduction of regulatory and institutional reformation meant to attract public private partnership (PPP) in infrastructure and the participation level of citizens on project development has changed and become more common, such that the citizens can get involved by sharing their ideas for projects in their own area; hence the system is turning into a bottom-up one (Gyda, 2012). In the government regulation number 25/2004 on National Development Planning, the structure of community participation through *Musrenbang* was first formally endorsed (Gyda, 2012). Musrenbang is the term used for the development planning and multi-stakeholder consultation forums which are meant to encourage and promote community participation in development planning at the regional level. A citizen's representative is invited to a formal meeting with local government, a project officer and a public-private partner to discuss the projects around the area.

The opportunity of citizen participation in decision-making in infrastructure is increasing over that in the Suharto period. Previously, people were passive in decisions about infrastructure projects.

They could not give any input or ideas concerning their needs; it was almost impossible to suggest anything to the government. However, recently that condition has changed. The government formed a new program and reformation democracy, in which people can get involved directly in the process of decision-making for the projects. Participation in decision-making, planning, and budgeting was thus as much a demand of the citizens as a result of shifts on official development discourse away from technocratic top-down implementation of development programs towards bottom-up participatory models of development (Sarosa et al., 2005).

The opportunities of citizen participation in decision-making for infrastructure have been mentioned above. It starts with the idea that *gotong royong* (mutual aid) and *musyawarah* (rule by consensus) not only figure prominently in ethnographic accounts of the Indonesian village (desa) but also in urban neighbourhoods (kampung). This is a kind of culture and tradition in local villages, where all people are involved not only in coming up with ideas, but also in working together. For example, if a village needs to build a bridge to connect to a neighboring village, then the citizens will hold a meeting where many may share their thoughts, as well as support the implementation of this project by bringing supplies for the people who will work on the project. They will bring food, water, and other things to help until the bridge is finished.

1.3. Public acceptance of infrastructure projects

Public acceptance is an important concern for multiple reasons (Bicket et al., 2016). For instance, perceived public acceptability, especially the perception of controversy, is itself also a key factor in the public acceptability of a policy; people are less likely to support a policy if they expect others to defect (De Groot et al., 2012). A strong social norm, where attitudes and behavior in support of the policy are common knowledge, is associated with higher public acceptability (Schade et al., 2003). Perceived distributional fairness of costs and environmental burdens (Dresner et al., 2006; Zverinova et al., 2014), and procedural fairness (Drews et al., 2015) are linked to higher public acceptability. Increasiing public acceptance is considered to be an important factor in designing the

decision-making process, especially regarding infrastructure construction. If the public perceives the project to be fair in procedure and in cost-benefit analysis, then they will accept it.

This research focused mainly on two infrastructure projects to investigate public acceptance: one was construction of an elevated road and the other was a facility for disposal of garbage. In the first case, the government promised that the construction of the elevated road would prevent traffic jams, which were commonly experienced. However, cemeteries, mosques, residences, and public facilities such as traditional markets and schoolyards had been moved or destroyed for this project. The residents are angry about this project. The project is currently postponed until the residents give their permission for it to continue.

Thus, public acceptance is a key factor in the successful implementation of regional policies (Wan, 2017). If the public broadly accepts a project proposal, government will be able to implement it smoothly. Gaining support from residents may also help authorities raise funds for the project (Basbas et al., 2015). On the other hand, low levels of acceptance among residents may create obstacles to the progress of a project despite the best efforts to implement it (Payne et al., 1996) As a result, a project may not be implemented because of strong public opposition.

1.4. Social conflict around infrastructure projects

Many cases of social conflict occur in infrastructure projects. The land acquisition is an extremely problematic phase in infrastructure development. As mentioned above, the case of building garbage disposal facilities is one of the cases that indeed has social conflict around land acquisition. The project was needed because residents produce garbage daily, dispose of their garbage anywhere, and then the government has to collect it all and bring it to the disposal facility. The government needs more space for this facility. But, the citizens around the facility have strong opinions and tend to disagree with this project. In this circumstance, the government needs support from the residents and other stakeholders. They should approach and invite the residents to a meeting to discuss alternative solutions. The government needs to build consensus to solve this conflict. However, there

are many cases in which a project is rejected because of strong public opposition. Especially, people with strong opinion prevent consensus building.

Consensus building is an especially interactive shape of a participatory process in which the affected stakeholders are directly involved in the decision-making (Dorcey et al., 1994). There has been an increasing interest in involving the public in decision-making and community development, both in the developed and developing world (Rowe and Frewer, 2000) in the last decade. At the same time new participative planning techniques focusing on consensus building have come up (Godschalk and Patterson, 1999) in the last decade. Many researchers have studied consensus building related to procedural and public acceptance, but few research studies have been made about the relation between procedure and absolute values that are protected on decision processes accepted by the public.

1.5. Protected values

Regional projects are commonly constrained by various trade-offs between incompatible values, as satisfying one value may entail sacrificing another. For example, the studied project of the highway can improve regional accessibility and reduce travel time, but it can also lead to changes in the local environment. Theories of rational decision-making require trade-offs among values (Baron and Sprance, 1997).

It has been pointed out, however, that residents may have strong feeling about mosques, residences, and public facilities such as cemeteries, traditional markets and schoolyards being moved or destroyed for a project. When people have values and are against trade-offs with other values, this is generally called protected values by Baron and Spranca (1997), or an attitude where one will not compare or balance particular important values with other values. In other words, these values are based on an absolute belief that one's values must be protected at all costs. People may assign protected values to human and animal life, the natural environment, human rights, divinity, etc. People who have these values are difficult to change or trade-off to other values, especially for a project. Moreover, some projects displace neighborhood residents. As long as residents' responses to

proposed projects either directly or indirectly affect regional decision-making regarding the project, residents need to understand such trade-offs to make well-reasoned judgments about the projects.

1.6. Purpose of this research

This study uses social psychological approach to understand the issues of consensus building or residents' acceptance for public works, especially focusing on the association of protected value and procedural fairness in the field of social psychology.

1. To explore the impacts of protected values on consensus building (or acceptance) around infrastructure projects.
2. To explore the association between protected values and procedural fairness in decision processes for infrastructure projects.
3. To develop an effective policy measure to mitigate the negative impacts of protected values in order to promote appropriate decision-making for infrastructure projects.

1.7. Structure of the Dissertation

This research is divided into seven chapters. Following are the description of each chapter:

Chapter-1

This section explains: modernization and trend in infrastructure development in Indonesia, democratization and citizen participation in Indonesia, public acceptance of infrastructure projects, social conflict around infrastructure projects, protected values, purpose of this research and structure of this dissertation.

Chapter-2

This section defines the reference that cited accordingly to the discussed subject in this research, determinant of acceptance, properties of protected values, procedural fairness, the focus of present research.

Chapter-3

The surveys explained in this section focuses on the household to be displaced and discussed about the influential factors on public acceptance. This chapter is divided into three parts. Part

one presents trade-off judgment of relocation and protected values and the present hypotheses. Part two describes the study area and respondents. Part three describes questionnaire, results and discussion.

Chapter-4

The survey explained in this section focuses on the impact of protected values on acceptance and procedural fairness on public projects. This section is divided into four parts. Part one presents the introduction of this research. Protected values, protected values and decision procedures. Part two describes about method of the research, the participants, questionnaire and procedure. Part three the results part four is discussion.

Chapter-5

This section describes about the protected values and their influences on perceived procedural fairness in highway project. Therefore, the highway construction project is to explore the nature and prevalence of protected values relevant to the project. Then, the study explored the role of trust in reducing the detrimental effects of protected values. This section is divided into six parts. Part one presents the introduction of research. Part two describes theory about property of protected values and procedural fairness. Part three describes methods and description of flyover construction project and respondents. Part four describes procedures and instruments. Part five is results showing possession and properties of protected values, impacts of protected values on procedural fairness, effect of trust in government and structural equation model analysis and part six is the discussion.

Chapter-6

This section describes about the effect of providing opportunities for reflection regarding Protected values (PVs) on the changes of the PVs and self-assessment of understanding. The issues of forming consensus about taking significant community risk, such as the construction of high-level radioactive waste in city, incorporates a trade-off between compensation (benefits)

when the risk is accepted and values impaired. This section divides into four parts. Part one is present the introduction, the concept of protected values and protected values and the illusion of understanding and hypothesis of research. Part two is describe experiment participant and procedures. Part three is the result about tendency to hold protected values and associated psychology characteristics, change in protected values and assessment of understanding, and relationship between protected values and assessment of understanding. Part four is the discussion about implication for the issue of consensus formation and subjects for future investigation.

Chapter-7

This section describes about the conclusion of the study and its implication to public works in Indonesia.

CHAPTER 2
Theoretical Background

2.1. Determinants of acceptance

Psychological acceptance is defined as one of the most important contextual changing strategies (Hayes, 1994). It means that acceptance refers to the conscious abandonment of a direct change of agenda in the key domains of private events, self, history, and openness to experience thoughts and emotions as they are. In this same vein, Dougher (1994) suggests that the key component of acceptance is letting go of one's control agenda and orienting towards valued actions. In other words, that acceptance is not an end goal but it's a method of empowering gain of the life goals. If public acceptance is the key to the successful implementation of regional policies (Wan C., 2017), then the public is able to broadly accept a method of project proposal which empowers the goal, governmental authority. As a result, a project may not be implemented in the public opposition.

The psychological research on social acceptance says that it has been generally important to note that this is a distinct type of acceptance, not to be confused with the common use of the term acceptance with respect to the status quo of one's life situation (Hayes, 1994). On the other hand, when policies are perceived as unacceptable the mechanism will work the other way, resulting in higher perceived costs and lower perceived benefits associated with the policy (Siegrist, Cvetkovich, & Roth, 2000). Hence, perceived costs appeared as the one of key predictors that strongly reduce the acceptance of policies (Bronfman, Jiménez, Arévalo, & Cifuentes, 2012). Frewer, Howard, & Shepherd (1998) assumed that acceptance of the policies is affected by perceiving costs and benefits that are functionally related to each other. Changing perception of benefits may be possible to alter perceived cost. This means that if people tend to be consistent in their beliefs, this results in devaluation of costs and the elevation of benefits for policies perceived as acceptable.

Residents' response to the government's proposed project depends on their perceptions of its benefits and costs, and the trade-offs between them (Hamersma, Heinen, Tillema, & Arts, 2016). Regional projects are commonly constrained by various trade-offs among incompatible values, as satisfying one value may entail sacrificing another. For example, transportation projects such as highway construction are able to improve regional accessibility and reduce travel time, but they can lead to change in the local environment and force local residents to relocate as well. If residents' response to proposed projects is taken into account directly or indirectly in regional decision-making, it is vital that residents figure out the trade-offs thus they can make well-reasoned judgments about the project. They also stated that fairness is one of the important values, which secures the present and future social welfare. Moreover, Fujii (2017) stated that if any policies greatly enhance social benefits, there is the highest possibility that people will regard the policies as fair. This implies the possibility that when the expectation is to increase the public benefit it fosters fairness through which public acceptance is increased. The acceptance of the public on regional projects will be studied in this research to measure the level of public participation and acceptance before and after understanding the projects.

2.2. Properties of protected value

Protected values are generally defined as a set of values protected from trade-offs with other values (Baron and Sprance, 1997). Most people have some values that they think as absolute ones, not to be traded-off for anything else. For instance, it has been pointed out that people may assign protected values to human and animal life, natural environment, human rights, divinity, etc. So those people will not condone any activities of development that could bring about extinction of plants or animals or acts of buying or selling organs for profit (Baron, 2008; Baron and Spranca, 1997). In other words, these values are based on an absolute belief that one's values must be protected at all costs or an attitude in which one value will not be compared with other particularly important values.

Baron and Spranca (1997) reported that a protected value is based on the *deontological rule*, which contrasts with consequentialism and represents the normative position that judges the morality of an action based on its adherence to a rule or rules. Unlike consequentialism, protected values are considered to be based on deontological rules regarding behavior itself rather than the consequence of the behavior (Baron and Spranca, 1997). Here, deontological rules generally represent that governed actions should or should not be taken, regardless of their consequences. According to Baron and Spranca (1997), protected values may show qualities of: 1) "quantity insensitivity," 2) "obligation," 3) "anger," and 4) "posturing" as based on such deontological rules (Baron and Spranca, 1997).

Properties of protected values can be described as duty-, obligation-, or rule-based beliefs because these beliefs stipulate conformation of people to certain behavior standards. Actions are more important than consequences for people who possess protected values. They have a belief in obligating support or non-support for a certain action, regardless of the result of the action. Baron and Spranca (1997) identified four characteristics of protected values derived from the standpoint of the deontological rule: moral obligation, quantitative insensitivity, anger, and absoluteness. Firstly, protected values are observed as moral values that are universal and objective, regardless as a moral obligation it is not simple conventions or personal preferences. Secondly, people's insensitivity may be caused by protected values. For instance, an environmentalist with protected values considers destroying a species through a single act to be as bad as destroying a hundred species through a single act. Thirdly, if people's protected values are violated then they may become angry because they observe it as a moral violation. Fourthly, absoluteness can be associated with protected values, as people believe that these values should be protected from any trade-offs under any circumstances. This study examined these properties that could be observed among Indonesians by their attitudes toward a regional project.

2.3. Procedural fairness

The perceptions of fairness, that consist of procedural and outcome fairness, are crucial in facilitating residents' acceptance of policies (Lind & Tyler, 1988; Thibaut & Walker, 1975; Tyler & Lind, 1992). Psychological theories of justice assume that people care about justice and fairness primarily because of their social identity needs (Skitka & Mullen, 2002). People may be particularly attentive to *procedural fairness* because of procedural actions by institutions and authorities which provide important information about the social worth and values of the involved parties (Cropanzano & Greenberg, 1997). Procedural and outcome fairness are conceptually independent but normally they have correlation. They can even be important tools in observing policy which can be perceived as fair depending on the situation and institutional framework of a given country (Dreyer & Walker, 2013). Procedures are posited to be the dominant predictor of the perception of outcome fairness and acceptance because people are usually aware of procedures before outcomes. According to Lind and Tyler (1988), belief about procedural fairness is the strongest predictor of whether people feel justice was done in a society. Tyler et al. (1996) reported that giving disgruntled group members a voice, regardless of whether it is instrumental (i.e., voice can affect the decision-making process) or non-instrumental (i.e., voice has no effect on the decision-making process), may be sufficient for a process to be considered fair. In addition, Wenzel (2002) shows that if people feel fairly treated, they will be satisfied with less favorable outcomes.

Perceived benefits have significant influence on procedural fairness and outcome fairness. Residents tend to have higher perceptions of perceived fairness, both procedural and outcome fairness. This implies that increasing the perceived benefits of the policy is sufficient to make residents recognize the policy as fair, which may foster public acceptance. This new fact is in line with Garling, Fujii, & Jakobsson (2003) stating that increasing perceived benefit which consists of individual benefit and public benefit does not enhance the perceived fairness. Contrary to perceived costs having a small influence on acceptance, procedural fairness and even on outcome fairness have no influence.

However, perceived costs have significantly influenceed the perceived benefits in a negative way and those have direct effect on perceived fairness. In the other words, it was said that perceived costs have indirect effect on both procedural and outcome fairness.

Frewer, Howard, & Shepherd (1998) assumed that an acceptance of the policies is affected by perceived costs and benefits that are functionally related to each other. They also argued that it may be possible to change perceived costs by changing perceptions of benefits. If people prefer consistency among their beliefs, this results in devaluation of costs and the elevation of benefits for policies perceived as acceptable. For policies perceived as unacceptable the mechanism would work the other way, resulting in higher perceived costs and lower perceived benefits associated with the policy (Siegrist, Cvetkovich, & Roth, 2000). Hence, perceived costs appeared as the one of key predictor that strongly reduced the acceptance of policies (Bronfman, Jiménez, Arévalo, & Cifuentes, 2012).

If study is continued on perceived benefit which is related to perceived fairness, then it is possible to expect an increasing of acceptance. Moreover, according to Schwartz & Bardi (2001) perceived benefits are also related to the perceived fairness. Residents have taken the perceived benefits, both individual and social benefits into account considering the policies' fairness. They also stated that fairness is one of the important values which secure the present and future of social welfare (social benefits). Moreover, Fujii (2017) stated that if any policies greatly enhance social benefits, there is a high probability that people will regard the policies as fair. This implies the possibility that expectation to increase the public benefit fosters fairness in which public acceptance is increased.

Trust in the government (such as regulators or owners of the policy) was found to be positively related to the residents' acceptance of policies (Siegrist et al., 2000). When residents have lack of information about a certain policy, acceptance may depend on trusting to the government who is responsible for the policy as a heuristic or alternative ground to base one's opinion (Siegrist & Cvetkovich, 2000). However, there is no agreement about the certain definition of trust and types of

trust. Residents who trust in the government more likely have to trust that the policies are effective as well as less harmful and fair, thus their acceptance tends to be higher (Schmöcker, Pettersson, & Fujii, 2011b). Trust in the government is based on whether among the residents the government is seen as having similar values or understanding to the specific situation (Earle & Cvetkovich, 1997). Government is expected to have similar views and values as the residents as well as making sure that the residents obtain the proper benefit from any policies they made. As a result, it is expected that the fairness is perceived as significantly high when the benefits perceived by residents is higher.

Thus, a regional project tends to be accepted when the process surrounding the project is considered fair. After recognizing that a project conflicts with their protected values, residents might not feel that the procedure is fair. Particularly according to the value protection model developed by Skitka (2002), people are motivated to protect their sense of personal identity when it is threatened, and they perform this by making cognitive, affective, and behavioral adjustments. All of which suggest whether they will feel an event is fair or unfair.

2.4. The focus of present research

Although previous research has studied protected values in an extensive manner, several limitations require consideration. First, few studies have dealt with this issue in the context of regional public policy-making. Furthermore, previous studies by Baron and his colleagues have explored protected values using hypothetical scenarios. Little is known about whether people have protected values when it comes to actual projects, and, if they do, how such protected values affect acceptance of the projects. Second, previous studies have emphasized the importance of procedural fairness in residents' acceptance of public decisions (Lind & Tyler, 1988). Yet, it is finding that residents' perceptions of procedural fairness can be affected by the presence of protected values. Many research projects were limited to measuring the protected values regarding public acceptance, and to determining if decision procedures can be used to moderate negative attitude, and to examine whether

people with protected values perceive the fairness of the decision procedures. There is not yet a study about the association between procedural fairness and protected value. Finally, few studies have explored ways to mitigate the negative impacts of protected values on public acceptance around infrastructure projects.

Given these limitations, this research addresses the problematic characteristics of protected values that impede public acceptance, focusing on actual projects. Then, it explores the association between protected values and procedural fairness of decision processes for infrastructure projects. Finally, an effective policy measure to mitigate the negative impacts of protected values in order to promote appropriate decision making for infrastructure projects is examined and proposed.

CHAPTER 3
The Effects of Protected Values on Policy Acceptance

3.1. Introduction

One of the main challenges to the implementation of residential relocation as a part of urban renewal policy is the need to gain acceptance from residents. Even though relocation of residents is necessary as a means of urban restructuring such as industrial development, slum clearance or disaster prevention, it is not always welcome by the affected residents (McDonald-Wilmsen & Webber, 2010; Mehta, 2005). The government proposal of relocation, both voluntary and involuntary or "forced" programs, can fail to be carried out in the face of strong opposition from residents. Therefore, to understand determinant factors underlying residents' acceptance is a key to effectively implement relocation programs.

3.1.1. Trade-off judgment of relocation and protected values

Numerous studies have viewed household's decision to relocate as a complex function of trade-offs process between current residence and relocation site (Heaton, et al., 1979; Kim, et al., 2005). A relocation program proposed by governmental authority commonly comes with various trade-offs with regards to a wide range of attributes such as housing costs, dwelling quality, accessibility, amenity conditions. On the one hand, a relocation program, especially as seen in the case of resettlement programs for slum clearance in Asian cities, could bring benefits to residents, for example when they come with rehousing to new dwelling (Yuen et al., 2006). On the other hand, residents may have a concern about the burden of additional costs due to change in their residence such as increase in housing costs, worsening of work conditions and social segregation (Stephens, 2010). Given this, it may be considered that residents are likely to accept the relocation program if they feel the benefits outweigh the costs.

Many studies on decision theory, however, have claimed that people are not solely concerned about the consequences of their own decision, nor make a trade-off between its benefits and costs (Baron, 2008). Assuming that's the case, even if a relocation proposal stresses the benefits that result from the relocation, the affected residents may reject the proposal. Indeed, recent studies suggest that residents' refusal to leave was still observed despite governmental efforts to mitigate their hardship through compensation and quality of life improvements in the new area (Dirar et al., 2015). Thus, residents' responses to the government proposal of relocation can be influenced by other factors which are at least somewhat independent of its consequences.

The present study focuses on a decision rule to resist trade-offs, which is known as *protected values*, as an important factor preventing affected residents from accepting a relocation program whatever its consequences. Baron and Spranca (1997) called values that are protected against trade-offs with other values protected values. Using economic terminology, protected values are values with an infinite marginal rate of substitution. A protected value is based on deontological rules, which contrasts with consequentialism and represents the normative position that judges the morality of an action based on its adherence to a rule or rules (Baron & Spranca, 1997). People with protected values think that these values should not be sacrificed for anything, regardless of the benefits. When residents possess such a strong value against being relocated, they can hardly make a trade-off between perceived benefits and costs of the relocation. Accordingly, they will keep rejecting a relocation proposal, whatever benefits the government offers to them. Therefore, residents' denial of trade-offs due to loyalty to their protected values may challenge authorities' attempts to garner public acceptance of residential relocation.

The present study is aimed to demonstrate the effects of protected values on residents' acceptance of relocation programs by examining a case of relocation programs of riverbank settlers in Jakarta, Indonesia.

3.1.2. The present hypotheses

In addition to protected values, residents' acceptance of relocation program may also depend on two other factors not directly related to consequences of the relocation (Kearns & Mason, 2013). First, the strength of place attachment within their current residence has been shown to promote residents' willingness to stay the location and therefore may be negatively related with their acceptance of the relocation (Fischer & Malmberg, 2001). Second, trust in government has been recognized as a crucial factor that influences individual's acceptance of the government policy. Both factors may also influence aforementioned factors, i.e. perceived costs and benefits and protected values. It is because the costs and benefits of relocation may become higher and lower for residents who have more place attachment, and it can be considered that such residents then refuse to make a trade-off between the costs and benefits. Also, if residents do not trust in the government, they are likely to perceive negative outcomes from its relocation proposal. In addition, it is suggested that government trust is a root cause of people's protected values against the government policy.

The conceptual framework is shown in Figure 3.1. The assumed causal relations are indicated by the presented arrows. Coefficients to be estimated express the strength and sign of these paths. In the estimation, hypothesized latent variables correspond to the theoretical constructs which in turn are related to the observed variables through measurement models.

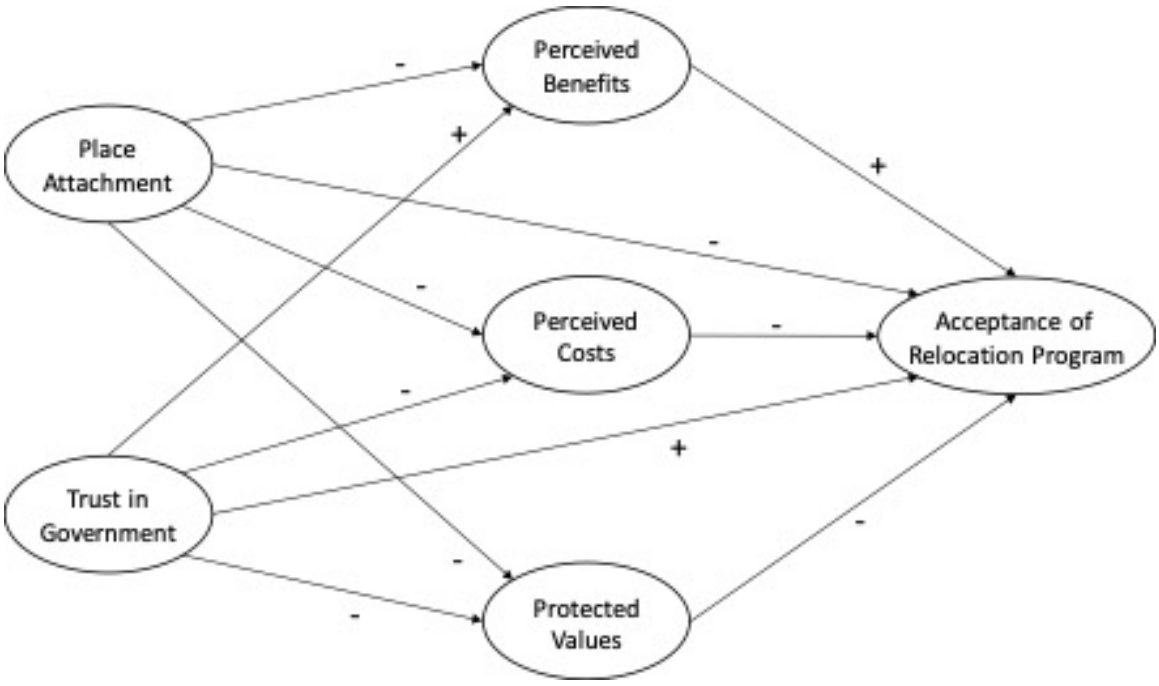

Figure 3. 1.A theoretical model of determinants of acceptance of relocation program

3.2. Method

3.2.1. The study area and respondents

The research site chosen for this study was Bukit Duri, a village (kelurahan) located on the Ciliwung River in South Jakarta (Figure 3.2. and 3.3.). The district, covering approximately 1.08 km2, is a densely populated area in which 41,938 people live in one- or two-story dwellings (Figure 3.4.(a) and 3.4.(b)). They have experienced floods (Figure 3.4.(c)) almost every year; the highest inundations on record were 7 m in 2007 (Antara News, 2012) and 4 m in 2013 (Vollmer, Prescott, Padawangi, Girot, & Grêt-Regamey, 2015). The government claims that clearing the informal settlements by displacing the residents to new settlements will improve the city's environment and solve its flooding problem (van Voorst, 2016). She then plans to displace around 728 households in Bukit Duri into housing that is located approximately 15 km away from the current settlement as flood mitigation measures called the River Normalization Program. The affected residents, however, refused the government's proposal, saying the eviction process was unfair and violated their human rights. The government's forced eviction invoked several rallies from residents.

Figure 3. 2 Map of Jakarta province

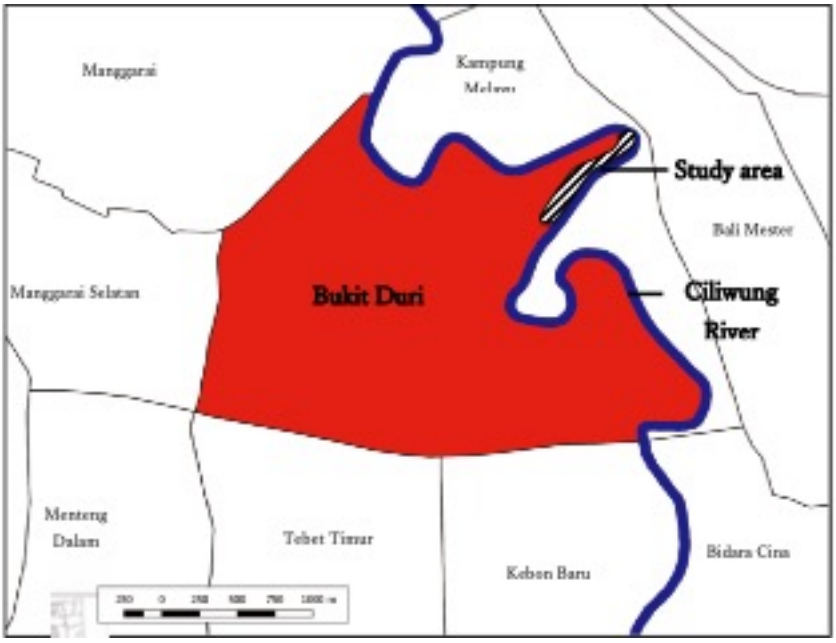

Figure 3. 3 Research area

Figure 3. 4.(a) Housing conditions, (b) riverbank settlements, and (c) post-flood inundation damage

Data collection for this study was conducted during September and October 2016. Two hundred and fifty respondents were selected by simple random sampling from 728 households that were directly affected by the displacement. This research used a quantitative method that included data collected from household surveys and structured questionnaires. Of the 250 returned questionnaires, one questionnaire was excluded due to incomplete answers, leaving 249 usable responses.

3.3.Questionnaire

Table 3.1. presents an overview of questionnaire items used in this study to measure five variables: acceptance, perceived cost and benefits, protected values, place attachment, and trust. Following Kim, Schmocker, Bergstad, Fujii, & Garling (2014), respondents' acceptance of relocation was measured using three items. Perceived benefits and costs were measured with two items respectively, which assessing the residents' perception of the positive and negative outcomes that might result from the relocation policy. As for protected values, two items were used to measure the

degree to which residents resist trade-offs with being relocated. Place attachment was measured with four items, which were taken from Hernández et al. (2007). Finally, trust in the government was measured with two items, one assessing general trust and the other assessing trust with regards to the relocation program. All of the questionnaire items were measured using a 7-point Likert scale, with the higher scores indicating greater agreement with the questions or statements.

Table 3. 1. Questions used to measure each variable

Acceptance of relocation program	Do you agree with government policy regarding relocation? (A1) Do you support the government policy regarding relocation? (A2) Are you willing to accept this government's decision to implement the relocation policy? (A3)
Perceived benefits	How improved the condition of the new settlement's buildings do you expect compared to your current residence? (PB1) How improved the public school condition in the new settlement do you expect compared to your current residence? (PB2)
Perceived costs	Do you think the moving cost for the new settlement is high? (PC1) Do you think you will find difficulties and spend more money for changing your lifestyle in the new settlement? (PC2)
Protected values	It is impossible for me to think about how much benefit we should demand in order to allow this displacement. (PV1) There is nothing we can gain by following this displacement. (PV2)
Place attachment	When I've been away for a while, I really want to come back. (PA1) I feel at home in this neighborhood. (PA2) When I'm away, I always miss my house and my neighborhood. (PA3) This neighborhood is part of my identity. (PA4)
Trust in government	In general, do you trust the government? (T1) Do you trust the government to make policy on relocation? (T2)

3.4.Results

To examine the comprehensive causal relationships among five variables, an SEM based on path analysis including the five variables as latent variables is used in AMOS. Figure 3.5. shows how the latent variables were estimated from the measurement variables described in the Section 2. The measures labeled A1-A3, PB1-PB2, PC1-PC2, PV1-PV2, PA1-PA4 and T1-T2 refer to the ratings of acceptance, perceived benefits and costs, protected values, place attachment, and trust, respectively. As shown in Table 3.2., all estimates of parameters in the measurement models were significant. This suggests that the observed variables are measures of the theoretical construct as hypothesized.

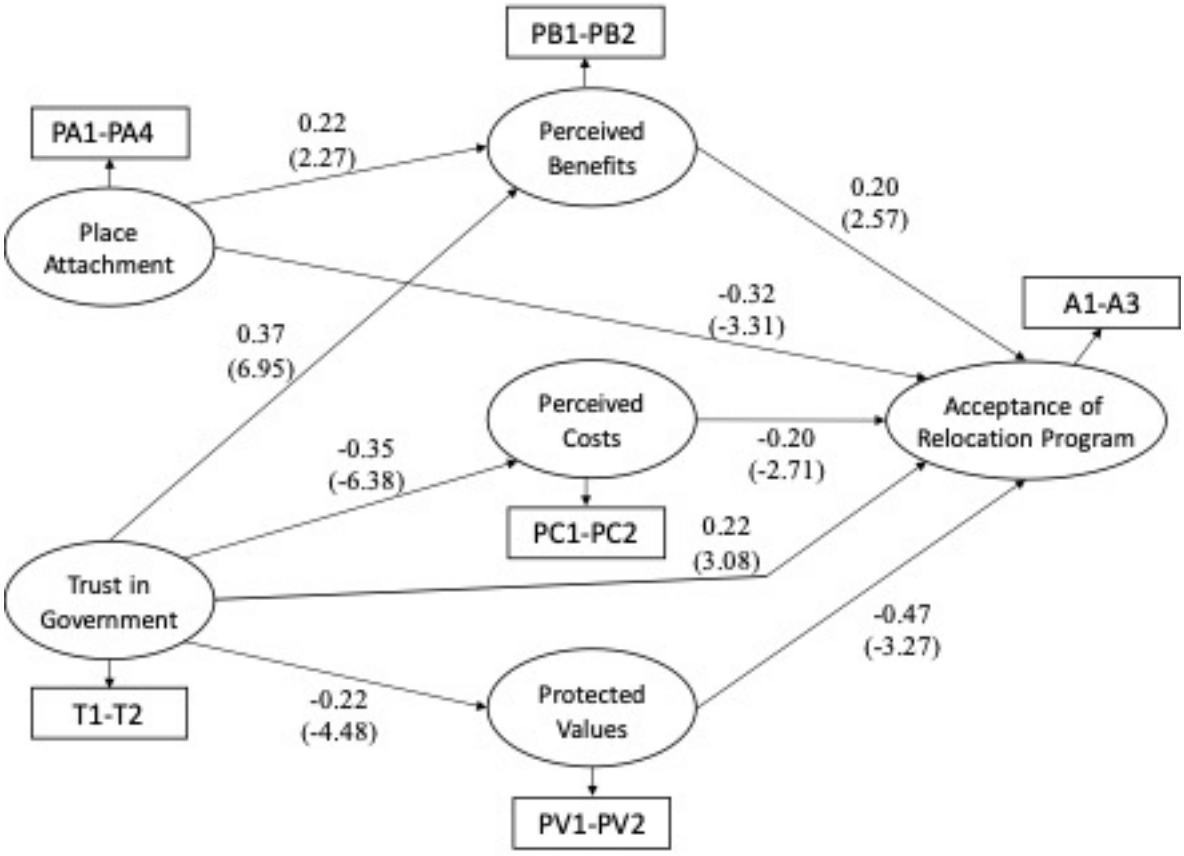

Figure 3. 5. Estimated model of determinants of acceptance of relocation program. (The estimated coefficients are given for each causal path in the structural model accompanied by the corresponding t-statistics within parentheses.)

Table 3. 2. Estimates of coefficients in measurement models

Latent variables	Measurement variables	Coefficient	*t*
Acceptance of	A1	1.00	-
relocation program	A2	1.13	18.38
	A3	1.02	16.58
Perceived benefits	PB1	1.00	-
	PB2	1.01	9.13
Perceived costs	PC1	1.00	-
	PC2	0.93	7.78
Protected values	PV1	1.00	-
	PV2	1.46	4.91
Place attachment	PA1	1.00	-
	PA2	0.89	11.54
	PA3	1.06	14.12
	PA4	1.01	13.91
Trust in	T1	1.00	-
government	T2	0.94	24.91

The estimated coefficients corresponding to the hypothesized causal paths between the latent variables are also given in Figure 3.5. In support of the hypotheses, the coefficients corresponding to the posited causal paths, except for the paths between place attachment and perceived benefits and between place attachment and protected values, were significant with the right signs. In addition, the model fit the data well, as judged by the following statistics: $\chi 2$ (n = 249, df = 80) = 139.65, $\chi 2$/df = 1.75, CFI = 0.97, AGFI = 0.90, and RMSEA = 0.055.

3.5. Discussion

The results of the present study indicate that protected values tend more to affect negatively residents' acceptance of relocation program than their perception of benefits and costs of the relocation do. This implies that residents may have concerns not solely about the consequences of the

relocation. The findings of this study suggest that the government may not able to gain residents' acceptance simply by offering compensation and new settlements, especially in case that the residents with protected values refuse to calculate whether the benefits of the relocation exceed the costs

It was also shown that protected values were negatively related with trust in government. The association between protected values and trust has not yet been examined in previous research, but is in line with the arguments in Baron & Spranca (1997) suggesting that those who distrust others think that allowing trade-offs would be too risky. Given the present findings, the government should make efforts to promote trusting relationships with residents through, for example, showing their sincerity. In addition, acceptance was shown to be negatively related with place attachment. This result was consistent with the findings of Fischer and Malmberg (2001). It would be important that the sense of place or community be taken into consideration and maintained even in case of relocation.

Further research should include various factors, such as risk perception and procedural fairness, to more comprehensively understand residents' attitudes toward relocation. Psychological processes, including those factors that underlie residents' acceptance of displacement, could be examined in a more systematic way by applying structural equation modeling. Furthermore, it is also important to study the psychological processes by which protected values are developed or mitigated. Experimental research that examines the effects of reflective thinking and communication processes on protected values would contribute to developing relevant measures to reduce the negative impacts of protected values.

CHAPTER 4

The Impact of Protected Values on Acceptance and Procedural Fairness of Public Projects: Exploring the Effects of Decision Procedures

4.1. Introduction

Gaining acceptance from the public plays a critical role in the successful implementation of regional projects (Wan, Shen, & Choi, 2017). If a project proposal enjoys strong public support, the government can carry it out smoothly. Support from citizens may also support the authority in raising funds for the project (Basbas, Mintsis, Taxiltaris, Roukouni, & Vazakidis, 2015). Conversely, low levels of acceptance among citizens may cause obstacles to policy-goal achievement, despite a government's best efforts. As a result, a project may fail in the face of strong public opposition.

Residents' responses to government project proposals depend on their perceptions of its benefits and costs, and the trade-offs between them (Hamersma, Heinen, Tillema, & Arts, 2016). Regional projects are commonly constrained by various trade-offs between incompatible values, as satisfying one value may entail sacrificing another. For example, transportation projects such as highway construction can improve regional accessibility and reduce travel time, but they can also lead to changes in the local environment and force local residents to relocate. If residents' responses to proposed projects are taken into account, directly or indirectly, in regional decision making, it is vital that residents understand such trade-offs so that they can make well-reasoned judgments about the project.

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4.1.1. Protected values

Some people with strong values and opinions, however, think that their values and opinions are absolutely non-negotiable and refuse to make trade-offs. Such values, which are protected against trade-offs with other values, are called *protected values* by Baron & Spranca (1997). Using economic terminology, protected values are values with an infinite marginal rate of substitution. People with

protected values think that these values should not be sacrificed for anything, regardless of the benefits. It has been pointed out that people may assign protected values to human and animal life, the natural environment, human rights, divinity, etc. so as not to condone any activities or developments that could lead to the impairment of such values (Baron, 2008; Baron & Spranca, 1997).

Unlike consequentialism, protected values are considered to be based on deontological rules regarding behavior itself, rather than the consequence of behavior (Baron & Spranca, 1997). Here, deontological rules generally represent rules that govern actions that should or should not be taken, regardless of their consequences. Protected values exhibit qualities such as quantity insensitivity, obligation, anger, and omission bias because they are based on such deontological rules (Baron & Spranca, 1997). First, protected values make people insensitive to consequences. For example, an environmentalist with protected values linked to environmental conservation may consider destroying a species through a single act to be as bad as destroying a hundred species through a single act. Second, the actions required or prohibited by protected values are regarded as moral obligations, because they are universal and objective, not simply conventions or personal preferences. Third, people may become angry if their protected values are violated because they see it as a moral violation. With regard to this, Tetlock et al. (2000) pointed out the possibility that the very act of trading off one's values with other people's values may induce a sense of anger. Finally, protected values concern actions but not omissions. Accordingly, people who hold protected values tend to be less concerned about the harm caused by omission than about identical forms of harm caused by action.

In the decision-making process for regional projects, such refusals to make trade-offs by some stakeholders create problems for government agencies, which try to allocate resources by taking into account the various values of all stakeholders. For example, one stakeholder could dominate a decision by expressing an absolute value, or stakeholders with conflicting protected values could make it impossible to finalize a decision (Baron & Leshner, 2000). Taken together, residents' denial

of trade-offs due to their protected values may challenge authorities' attempts to make reasoned judgments and garner public acceptance of decisions in diverse societies.

4.1.2. Protected values and decision procedures

Protected values are based on an absolute belief that one's values must be protected at all costs. Previous studies, however, suggest that such values may not necessarily be invariable; they may be altered, depending on the situation. Baron & Leshner (2000) demonstrated that protected values may be attenuated in those holding them when they imagine counterexamples to those values (circumstances in which they had no choice but to accept the action they object to). Similarly, Hatori & Kajiwara (2014) found that protected values may not be retained when people are given the opportunity to reflect on situations in which their protected values conflict with other values. These findings suggest that, even if people originally think that a project proposal conflicts with their protected values, they can, eventually, accept it.

Taking these findings into consideration, the present study focuses on the effects of decision procedures to explore the possibility of convincing those who have protected values to accept a public project. Given that protected values are based on deontological rules, which contrast with consequentialism, even if a project may lead to "consequences" that conflict with one's protected values, negative attitudes towards that project might be moderated, depending on the "procedures" used to design the project. According to Fujii (2008), methods for making social decisions can generally be divided into four types; 1) cost-benefit analysis, 2) compliance with laws and customs, 3) majority rule, and 4) deliberation. People's responses to a project proposal may depend on which method the government adopts to make the decision. In particular, as cost-benefit analysis measures trade-offs between the costs and benefits of a project in monetary terms, people who think their values should not be traded off may refuse projects proposed based on such a procedure.

4.1.3. This study

Although denial of trade-offs due to residents' protected values is one of the most significant issues regarding public acceptance, few researchers have investigated how to convince people with protected values to accept a public project. Hatori & Kajiwara (2012) showed that project acceptance by those with protected values depends on the associated decision-making processes. However, this finding was based on data obtained from university students, a somewhat restricted sample. Moreover, as the previous study only assessed the acceptability of decision procedures, little is known about the reasons why the acceptability of a proposal depends on the procedure used to make it. Accordingly, we replicated the previous study using an adult sample to determine which decision procedures can be used to moderate the negative attitudes of people with protected values. Furthermore, we investigated how people with protected values perceived the fairness of decision procedures, in a comparative manner, as this is known to contribute to public acceptance (Lind & Tyler, 1988).

4.2. Method

4.2.1. Participants

Three hundred residents of three cities (Makassar, Maros, and Watampone) in South Sulawesi were recruited randomly to participate in a questionnaire survey. The sample consisted of 148 males (49.3%) and 152 females (50.7%), and their mean age (standard deviation) was 33.46 (10.92) years (range of 19–65 years). Other information about personal attributes of participants is shown in Table 4.1.

Table 4. 1. Personal attributes of participants

	n	%
Respondence type		
Permanent house	229	76.3
Rental house	41	13.7
Others :	30	10.0
Occuaption		
Employee	46	15.3
Civil servants	119	39.7
Part time job	10	3.3
Student	65	21.7
House wife	21	7.0
Self employed	24	8.0
others :	15	5.0
Education		
<High school graduate	10	3.4
High school	98	32.9
College degree	144	48.3
Graduate degree	46	15.4

4.2.2. Questionnaire and procedure

Questionnaires were administered by one member of a team of seven interviewers at the respondents' homes. Before undertaking the survey, the interviewers attended a 3-hour briefing session about how to administer the questionnaire and were informed about the objectives of the study. Each interviewer administered 35–45 questionnaires, and the average duration of the questionnaire was 30 min. Each respondent was informed that his or her responses would be used for research purposes only and was assured of confidentiality.

Measures of protected values. Initially, participants were asked to read a scenario about a dam construction project that may cause some fish species to become extinct. After reading the description, their tendencies to express protected values regarding the project were measured according to Baron & Spranca (1997). They were asked to select the option closest to their opinion regarding the project, from the following three options:

(1) The project should be prohibited no matter how great its benefit.

(2) The project should be accepted if it provides a sufficient benefit.

(3) I agree with the project.

As suggested by Baron & Spranca (1997), participants selecting choice 1 were identified as possessing protected values about this project. Hereafter, these are called PVs; those who selected choices 2 or 3 are called non-PVs.

The participants were then asked to rate their agreement with three items regarding the deontological rule using 7-point scales ranging from 1 = totally disagree to 7 = totally agree: moral obligation ("We have an obligation to try to stop this project"), anger ("I feel angry about this project"), and resentment ("I feel resentment towards this project"). To assess quantity insensitivity, the participants were asked whether it is equally wrong to allow this project to be implemented once or twice. Moreover, to measure omission bias, we asked the participants to read a new scenario in which more harmful consequences (extinction of more species) could result from not constructing this dam. After reading this scenario, they indicated their agreement with this project using 7-point scales ranging from 1 = totally disagree to 7 = totally agree.

Decision procedures and acceptance. The participants were asked to read four scenarios in which this project was adopted based on the different methods shown in Table 4.2. After reading each scenario, the participants were asked to indicate their level of agreement with the decision using 7-point scales ranging from 1 = totally disagree to 7 = totally agree.

Table 4. 2. Scenario for decision procedures

[Cost-benefit analysis] The government relied on cost benefit analysis (CBA) to make a decision about whether to build the dam. The economic cost of loss of fish species is included as a cost component of the project. The government estimated the cost of fish species extinction to be 100 million dollars in the case of the extinction of one fish species. Having compared the costs and benefits accrued from the dam project, the benefits from the project were found to be higher than the overall cost. Therefore, the government decided to implemen the project.
[Compliance with laws and customs] The government relied on traditional custom or related laws to make a decision about whether to build the dam. The dam is to be located in an area that is approved by environmental law. Therefore, the government has decided to implement the project.
[Majority rule] The government relied on the majority opinion of residents to make a decision about whether to build the dam. The government arranged a nationwide poll that included residents on both sides, for and against the project. The project was accepted based on the results of the nationwide opinion poll. Therefore, the government decided to implement the project.
[Deliberation] The government relied on a deliberation process to decide whether to build the dam. The results of the discussion indicated support for the dam project. Therefore, the governme decided to implement the project.

The fairness of each procedure was also measured by two questions: procedural fairness 1 (“This procedure is a fair way to implement the project”) and procedural fairness 2 (“This procedure provides fair treatment to those involved”). Furthermore, we included three questions related to procedural fairness: dignity & respect (“This procedure treats residents with dignity and respect”), residents’ rights (“This procedure respects resident’s rights”), and anger (“How angry would you be about this outcome?”). All items were rated on a 7-point scale ranging from 1 = totally disagree to 7 = totally agree.

4.3. Results

4.3.1. Prevalence and properties of protected values

The proportion of people with protected values was 13.8%. The proportion of protected values did not vary significantly between males (11.0 %) and females (16.6 %). Also, no significant differences in age were found between participants with protected values (*Mean* = 33.83, *SD* = 11.10) and those without protected values (*Mean* = 33.37, *SD* = 10.95).

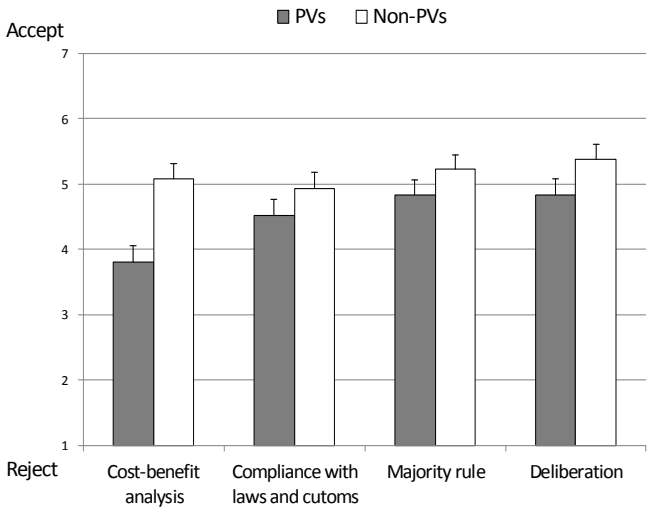
We compared participants with and without protected values with respect to the four characteristics of the deontological rule, and the results are shown in Table 4.3. Participants with protected values tended to possess more psychological traits associated with the deontological rule than participants without protected values ($t = 3.03$, $p < 0.01$ for moral obligation; $t = 2.01$, $p < 0.05$ for anger; $t = 3.24$, $p < 0.01$ for resentment; $t = -3.13$, $p < 0.01$ for omission bias). The response rate, which was insensitive to quantity, was higher from participants with protected values than from those without ($\chi^2 = 6.96$, $p < 0.01$ for quantity insensitivity). These results demonstrate the validity of this method for measuring protected value.

Table 4. 3. Characteristics of deontological rules associated with protected values

	PVs		Non-PVs			
	M	SD	M	SD	*t*-value	*p*-value
Moral obligation	3.68	2.22	2.72	1.83	3.03	0.003
Anger	3.32	2.08	2.59	2.60	2.01	0.048
Resentment	3.51	2.10	2.53	1.76	3.24	0.001
Omission bias	4.63	1.93	5.48	1.54	-3.13	0.002
	%	n	%	n	χ^2	*p*-value
Quantity insensitivity	72.5	29	50.0	118	6.96	0.008

4.3.2. Acceptance associated with protected values and decision rules

The means of acceptance of the four procedures, for participants with and without protected values, are shown in Figure 4.1. Participants with protected values tended to be less likely to accept a project that was adopted based on a cost-benefit analysis than another procedure. A project that was adopted according to laws and customs, rather than the other procedures, was less accepted by participants without protected values. The mean levels of acceptance for a project that was adopted through deliberation were highest for both groups.



Figures 4. 1. Acceptance associated with protected values and decision rules

Furthermore, we carried out a 2 (possession of protected values: with vs. without) × 4 (decision procedures: cost-benefit analysis, compliance with laws and customs, majority rule, and deliberation) repeated-measures analysis of variance, with acceptance as the dependent variable. The results revealed a significant interaction between possession of protected values and decision procedures (F (3, 294) = 4.32, $p < .01$). Our multiple comparison analysis revealed that participants with protected values were significantly less likely to accept cost-benefit analysis than majority rule and deliberation. We also found that the mean acceptance rates of cost-benefit analysis and compliance with laws and customs were significantly lower than for deliberation among participants without protected values.

4.3.3. Assessments of decision procedures

Table 4.4. shows the mean scores of assessments by protected values for the four decision procedures. Apart from the case of angry, significant differences between decision procedures were detected. According to the results of our multiple comparison analysis, the mean scores for cost-benefit analysis were significantly lower than those for majority rule and deliberation.

Table 4. 4. Assessments of decision procedures for participants with protected values

	Cost-benefit analysis		Compliance with laws & customs		Majority rule		Deliberation			
	M	SD	M	SD	M	SD	M	SD	*F*-value	*p*-value
Procedural fairness_1	3.66	2.08	4.32	1.92	4.76	1.51	5.00	1.92	6.61	<0.001
Procedural fairness_2	3.60	1.77	4.43	1.75	4.90	1.58	5.18	1.72	9.66	<0.001
Dignity & respect	3.59	1.90	4.41	1.86	4.78	1.70	5.22	1.64	10.25	<0.001
Residents' rights	4.00	1.99	4.80	1.68	5.05	1.75	5.24	1.85	6.06	0.001
Angry	3.76	1.96	3.41	1.53	3.34	1.46	3.10	1.86	1.66	0.18

4.4. Discussion

The rigid and absolute attitudes associated with protected values mean that public acceptance, in the context of regional policy making, may be impeded. However, the results of this study suggest that acceptability to those who hold protected values can vary depending on the procedures by which a decision is made. This shows that respondents with protected values become less likely to accept a project proposal if it is presented on the basis of cost-benefit analysis, as opposed to another method. These results are consistent with the findings of the previous study by Hatori & Kajiwara (2012). The fact that the same tendency was observed in different surveys involving data obtained from different samples (i.e., university students in Japan and adults in Indonesia) confirms the robustness of the findings. The new findings of the current study were that respondents' perceptions of fairness also vary, depending on the procedures, in the same manner.

Thus, the low acceptability of cost-benefit analysis in relation to respondents with protected values may be due to their negative rating of cost-benefit analysis on the basis of procedural fairness. Indeed, they were less likely to feel that this procedure was fair and treated people with dignity and respect. It may be that they thought their values should not be traded off in monetary terms. We found that project proposals developed through deliberation were more likely to be accepted by respondents with protected values. Their perception of procedural fairness was also rated higher. These results suggest that, even if people originally think that a project proposal conflicts with their protected

values, they might come to accept it as long the decision procedure is perceived to be fair and their values are taken into consideration.

These findings can be related to the value protection model developed by Skitka (2002). The model claims that people are motivated to protect their sense of personal identity when it is threatened, and they do so by making cognitive, affective, and behavioral adjustments. All of these impact whether they will feel that an event is fair or unfair. According to this model, protected values can have a negative effect on perceived procedural fairness. Less is known, however, about whether and how such an effect depends on the nature of the decision procedures, as few studies have considered different procedures. The results of this study suggest that the effects of protected values on perceived procedural fairness can be moderate, depending on the procedures.

It is important to note that the current research does not claim that the governing authority should not adopt the method of cost-benefit analysis in deciding whether to implement project proposals. Rather, we claim that authorities should pay attention to the possibility that such a method can incur strong opposition from people with protected values. Our findings imply that recruiting support from people who hold protected values requires their understanding that their values have been taken into consideration during the decision-making process.

Note that the present study was conducted based on a scenario survey with a hypothetical project. It is important to study residents' protected values in the context of actual projects, and the effects of decision procedures on their acceptability. Moreover, while this study stressed the effect of deliberation, less is known about how best to facilitate deliberation among people with protected values. This is another important issue to be addressed in future studies.

CHAPTER 5

Protected Values and Their Influences on Perceived Procedural Fairness in Highway Project: A Field Survey in South Sulawesi, Indonesia

5.1. Introduction

Public acceptance is key to the successful implementation of regional policies (Wan C, Shen Cg, Choi S., (2017). If the public broadly accepts a project proposal, governmental authority is able to smoothly implement it. Gaining support from residents may also help authorities raise funds for the project (Basbas S et.al., 2015). On the other hand, low levels of acceptance among residents may create obstacles to the progress of a project despite the best efforts to implement it (Payne et.al., 1996). As a result, a project may not be implemented in the face of strong public opposition.

Resident responses to government project proposals depend on perceptions of its benefits and costs and how each resident makes trade-offs between them (Hamersma et.al.,2016). Regional projects are commonly constrained by various trade-offs between incompatible values, as satisfying one value may entail sacrificing another. For example, highway projects can improve regional accessibility and reduce travel time, but they can also lead to changes in the local environment. Moreover, some projects displace neighbourhood residents. As long as residents' responses to proposed projects either directly or indirectly affect regional decision making regarding the project, residents need to understand such trade-offs to make well-reasoned judgments about the projects.

However, some people with strong values think that their values should not be traded off with other values. Many of these values concern human life, natural resources, and human rights. Baron and Spranca (1997) called values that are protected against trade-offs with other values *protected values.* Using terminology from economics, protected values are such that the marginal rate of substitution is infinite. People with protected values think that these values should not be sacrificed for anything, regardless of the benefit. In a regional decision-making process, such a refusal to make trade-offs by some stakeholders creates problems for government agencies, which try to allocate resources after

considering the values of the stakeholders. For instance, one stakeholder could dominate a decision by expressing an absolute value, or stakeholders with conflicting protected values could make a decision impossible (Baron & Leshner, 2000). Taken together, residents' denial of trade- offs due to loyalty to their protected values may challenge authorities' attempts to make reasoned judgments and garner public acceptance of decisions in diverse societies.

Although residents' denial of trade-offs due to loyalty to their protected values is one of the most significant issues regarding public acceptance, few studies have dealt with this issue in the context of regional public policy making. Furthermore, previous studies by Baron and his colleagues have explored protected values using hypothetical scenarios (Lim Cs, Baron J,1997). Little is known about whether people have protected values when it comes to actual projects, and, if they do, how such protected values affect acceptance of the projects.

Our study addressed the problematic characteristics of protected values that impede public acceptance and examined how to mitigate them. We examined a highway construction project in the South Sulawesi province of Indonesia to explore the nature and prevalence of protected values relevant to the project. This study attempted to demonstrate the effects of protected values on perceptions of procedural fairness, which is widely known to be an important determinant of public acceptance in various policy domains, including transportation policies (Gärling T, Jakobsson C, Loukopoulos P, Fujii S, 2008). We predicted and examined a detrimental effect of protected values based on the value protection model of justice (Skitka LJ., 2002). Finally, the study explored the role of trust in reducing the detrimental effects of protected values.

5.2.Theory

5.2.1. Properties of protected values

Baron and Spranca (1997) reported that a protected value is based on the *deontological rule*, which is contrasted with consequentialism and represents the normative position that judges the morality of an action based on its adherence to a rule or rules. It can be described as duty-, obligation-,

or rule-based beliefs because these beliefs stipulate that people conform to certain standards of behavior. Actions are more important than consequences for people who possess protected values. They have a belief in obligatory support or nonsupport for a certain action, regardless of the result of the action. Protectd values have four characteristics derived from the standpoint of the deontological rule: moral obligation, quantitative insensitivity, anger, and absoluteness (Baron and Spranca, 1997). First, the actions required or prohibited by protected values are regarded as moral obligations, as they are universal and objective, not simply conventions or personal preferences. Second, protected values make people insensitive to consequences. For example, an environmentalist with protected values related to environmental conservation considers destroying a species through a single act to be as bad as destroying a hundred species through a single act. Third, people may become angry if their protected values are violated, because they see it as a moral violation. Fourth, protected values can be associated with absoluteness, as people believe that these values should be protected from any trade-offs under any circumstances. In this study, we examined whether these properties could be observed among Indonesians with regard to their attitudes toward to a regional project.

5.2.2. Protected values and procedural fairness

Since the pioneering work of Thibaut and Walker (1975), which first presented the idea of procedural fairness, a large body of literature has demonstrated that perceptions of *procedural fairness* are important predictors of policy acceptance (Lind EA, Tyler TR, 1988, Tyler TR, Boekman RJ, Smith Hj, Huo YJ, 1997). The term procedural fairness is defined as the fairness of the procedures used to determine policy outcomes (Lind EA, Tyler TR, 1998). This is different from the concept of outcome fairness, which relates to the distribution of the costs and benefits within society (http://www.scirp.org). Much evidence suggesting that people are more likely to accept policy decisions that come from fair procedures than those from unfair procedures has accumulated within the field of social psychology (Tyler TR, Boekman RJ, Smith Hj, Huo YJ, 1997, Anand P, 2001,

Tyler TR, et.al.,1985). For example, Tyler et al.,(1985) found that the endorsement of the Reagan administration's tax policies in the United States was more strongly influenced by judgments of procedural fairness than by other outcome-related concerns.

The concept of procedural fairness is particularly important in light of efforts to promote public acceptance during regional decision-making processes involving trade-offs among values. Stakeholders usually have a variety of values that are more or less mutually incompatible or that even conflict with regional policy-making protocols. However, the observation that people also care about procedural fairness suggests that they can accept a regional policy if they perceive that it is fair, even if the policy is not attractive based on outcome-related concerns (Lind EA, Tyler TR, 1988).

Thus, a regional project tends to be accepted when the process surrounding the project is considered fair. However, people with protected values would likely reject the project even if they originally felt that the project procedure was fair. After recognizing that a project conflicts with their protected values, they might not feel that the procedure was/is fair. In particular, according to the *value protection model* developed by Skitka (2002), people are motivated to protect their sense of personal identity when it is threatened, and they do so by making cognitive, affective, and behavioral adjustments, all of which suggest whether they will feel an event is fair or unfair. According to this model, protected values can derogate from procedural fairness. Based on this background, the following hypothesis regarding the association between protected values and perceptions of procedural fairness was developed:

Hypothesis 1: Even if people originally feel the procedure for a regional project is fair, they may not think it is fair after recognizing that the project conflicts with their protected values.

The present study focused on the role of trust in government as a potential mitigator of the derogation effects of protected values on perceptions of procedural fairness. Fujii (2006) reported that trust in government affects people's perceptions of procedural fairness and their approval of a regional project. Even if people have protected values that conflict with a regional project, they may

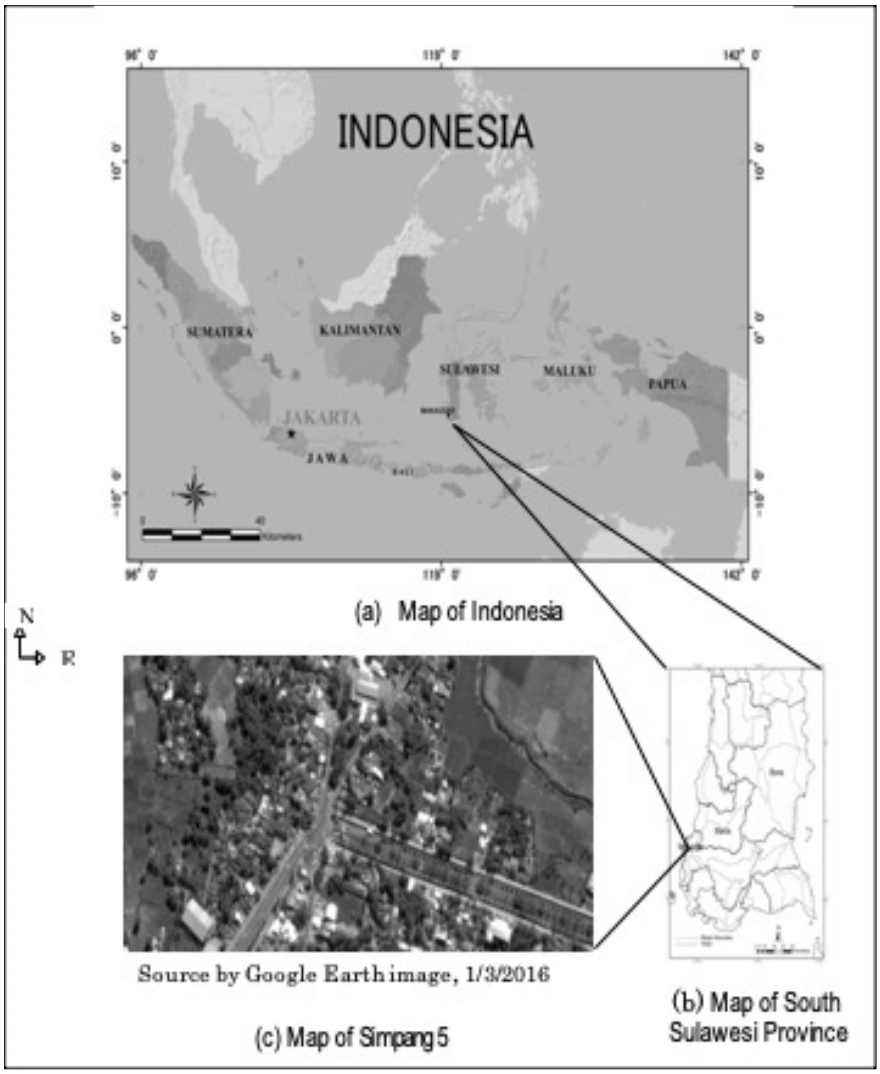
believe that the procedure is fair and accept the project if they trust the government. This is particularly true in this case, as the study was investigating residents' attitudes towards a highway construction project not yet conducted. As a result, we expected that levels of trust in government would moderate the relationship between protected values and perceived procedural fairness. Accordingly, we proposed the following hypothesis.

Hypothesis 2: Trust in government mitigates the derogation effect of protected values on perceptions of the procedural fairness of the process surrounding a regional project.

5.3. Methods

5.3.1. Description of the flyover construction project in Indonesia

Our survey focused on the Simpang 5 flyover construction project that was being planned around three cities (Makassar, Maros, and Watampone) in the South Sulawesi province of Indonesia (Figure 5.1.). The intersection in front of the entrance to Hasanuddin International Airport at Makassar is a critical traffic convergence point for drivers travelling from Makassar to Maros and those traveling on the Reformasi toll highway that enters the airport. Drivers going from Watampone to Makassar or to the airport also use this intersection. In 2013, the government developed the Simpang 5 flyover and underpass construction project to connect Makassar with Maros (Figure 5.2.). The project cost RP. 300 billion/year (US $30 million) over several years and was to be jointly funded by state and regional budgets. This project required 1.97 ha of land according to government regulation no. 71/2012, and the design called for a 1,050-m-long underpass that was 120 m long and 2 × 9 m wide.



.Figure 5. 1.Survey area

Figure 5. 2. The image of the Simpang 5 project

The government promised that completion of this project would prevent prolonged traffic gridlock, which is commonly seen around the intersection. However, a mosque (place of worship), residences, and public facilities, such as cemeteries, traditional markets, offices, and restaurants, around the intersection had to be moved or destroyed for this project. The government decided to follow the recommendations emerging from a cost–benefit analysis of the situation. To this end, a workshop was held with infrastructure experts and management companies to analyze the benefits and costs. The conclusion of the workshop was that the benefits were much higher than the costs. Accordingly, the government announced that it was proceeding with the project.

5.3.2. Respondents

Three hundred residents of three cities (Makassar, Maros, and Watampone; 100 respondents/city) were recruited randomly and participated in a questionnaire survey about the Simpang 5 flyover construction project. The sample consisted of 148 males (49.3%) and 152 females (50.7%), and their mean age (standard deviation) was 33.46 (10.92) years (range of 19-65 years).

5.4. Procedures and instruments

Questionnaires were administered by a one member of a team of seven interviewers at the homes of participants between March 12 and March 24, 2014. Before undertaking the survey, the interviewers attended a 3-hour briefing session about how to administer the questionnaire and were informed about the study objectives. Each interviewer administered 35–45 questionnaires, and the average duration/questionnaire was 30 min. Each participant was informed that his or her responses would be used for research purposes only and was assured of confidentiality.

In this survey, we assessed respondents' protected values against the Simpang 5 project. Their perceptions of the procedural fairness of cost-benefit analysis were measured twice; first, before they read the scenario that the Simpang 5 project adopted cost-benefit analysis to implement the project,

and a second time after they read the scenario. Using a within-subject design, the difference in each respondent's perception of procedural fairness between the first and second time was assessed to examine the influence of his or her protected values on the perceived procedural fairness for the project.

Pre-procedural fairness. Respondents were asked two questions related to the procedural fairness of the cost–benefit analysis. "This procedure (cost-benefit analysis) is a fair way to implement the project" and This procedure (cost-benefit-analysis) provides the fair treatment of those involved". Respondent indicated their agreement with statements using a 7-point Likert scale ranging from 1 = *totally disagree* to 7 = *totally agree*. These two ratings were added to yield a single score. The Cronbach's alpha of this measure was 0.74, which is high and indicates that the measure was reliable. This measure, which assessed perceptions of *pre-procedural fairness*, addressed each respondent's original feeling about the procedural fairness of the cost–benefit analysis (i.e., feelings before they were informed about the actual *Simpang 5* project procedure).

Attitude toward the project. Respondents were asked to read an explanation of the *Simpang 5* project. After they read the description, their tendency to possess protected values regarding the project was measured according to Baron and Spranca (1997). They were asked to choose the opinion from the following three opinions that was the closest to their opinion regarding the project:

1. The project should be prohibited no matter how great its benefit.

2. The project should be accepted if it provides a sufficient benefit.

3. I agree with the project.

As suggested by Baron and Spranca (1997), respondents selecting choice 1 were identified as possessing protected values about this project. Hereafter, they are called *PVs*; those who selected choices 2 or 3 are called *non-PVs*.

Respondents were then asked to rate their agreement with four items regarding the deontological rule: absoluteness ("I cannot think of any benefit of allowing this project to proceed"),

moral obligation ("We have an obligation to try to stop this project"), anger ("I am angry about this project"), and degree of insensitivity ("It is equally wrong to allow this project to be implemented once or twice"). All items were rated on a 7-point scale ranging from 1=totally disagree to 7=totally agree. Additionally, trust in government was assessed by asking respondents to use a 7-point scale ranging from 1=not at all to 7=very much so to rate the extent to which they trusted the government.

Post-procedural fairness. Respondents were asked to rate the fairness of the procedure (cost-benefit analysis) used for the *Simpang 5* project . We also created an additional two-item scale, which had an alpha relalibility of 0.80. This measure, which assessed perceptions of *post-procedural fairness*, addressed respondents' feeling about the procedural faineess of the cost-benefit analysis after they were informed about the actual Simpang 5 project procedure.

5.5. Results

5.5.1. Possession and properties of protected values.

The proportions of people with protected values were 22% in Makassar, 21% in Maros, and 26% in Bone. In terms of the reasons behind the protected values related to the Simpang 5 project, 51% of respondents cited religious reasons based on the fact that the project would destroy a mosque. Yet, 34% of respondents had protected values based on the fact that the project would force some residents to move.

To examine associations between a binary variable representing the possession of protected values and demographic variables, odds ratios (ORs) and 95% confidence intervals (CIs) for each level of each variable were calculated. As shown in Table 5.1., females were more likely to possess protected values than were males. It was also shown that people who were 45-54 years of age, had been public servants, or who had graduate degrees were less likely to possess protected values.

Table 5.1. Odds ratios for possession of protected values (n=300).

Variable	**OR**	**95% CI**	***P* Value**
Gender			
Male	-	-	-
Female	1.73	1.00-2.99	0.05
Age			
18-24	-	-	-
25-34	0.81	0.41-1.59	0.54
35-44	0.64	0.32-1.31	0.22
45-54	0.27	0.10-0.77	0.01
55≤	0	0.00-0.00	1
Occupation			
Employee	-	-	-
Public servant	0.41	0.18-0.91	0.03
Part time job	1.52	0.37-6.26	0.56
Student	1.17	0.52-2.63	0.71
Housewife	0.25	0.05-1.25	0.09
Self-employed	0.46	0.13-1.59	0.22
Others	1.14	0.33-3.96	0.83
Education			
<High school graduate	-	-	-
High school	0.61	0.17-2.22	0.46
College degree	0.72	0.21-2.54	0.61
Graduate degree	0.19	0.04-0.92	0.04

5.5.2. Properties of protected values

The four characteristics of the deontological rule were compared between PVs and non-PVs, and these results are shown in Figure 5.3. PVs tended to possess more psychological traits associated with the deontological rule that did non-PVs ($t = -1.78$, $p = 0.07$ for absoluteness; $t = -4.86$, $p = 0.00$

for moral obligation; $t = -5.36$, $p = 0.00$ for anger; and $t = -3.31$, $p = 0.00$ for quantity insensitivity). These results demonstrate the validity of the current measure of protected values.

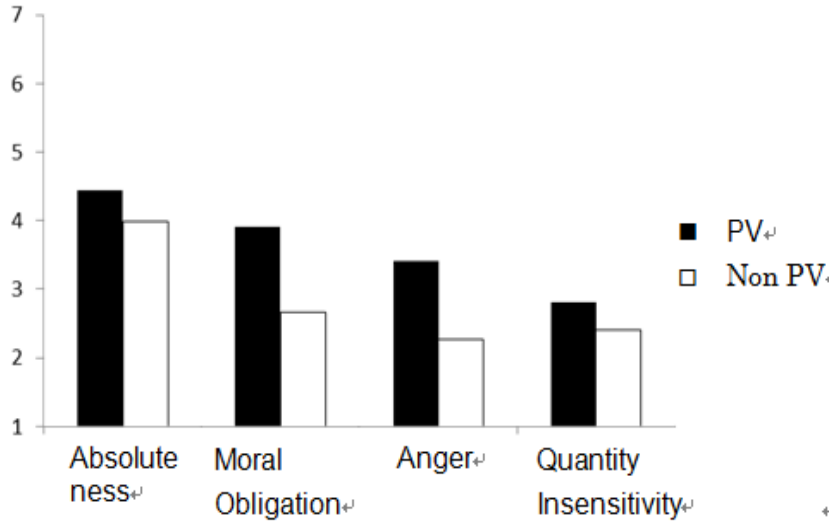


Figure 5. 3. Means of the properties of the deontological rule among people with (PVs) and without (non-PVs) protected values

5.5.3. Impacts of protected values on procedural fairness

Figure 5.4. shows the differences between the pre-procedural and post-procedural fairness ratings for the PV and non-PV groups. PVs viewed the procedure of cost-benefit analysis to be significantly less fair at the end than they did initially ($t = 2.74$, $p = 0.01$), whereas non-PVs had similar reactions to pre- and post-procedural fairness ($t = 1.36$, $p =$ n.s.). This result indicates that respondents holding protected values did not think the project procedure was fair if they recognized that it was inconsistent with their values. Thus, perceptions of procedural fairness decreased in those with protected values. This result supports our first hypothesis .

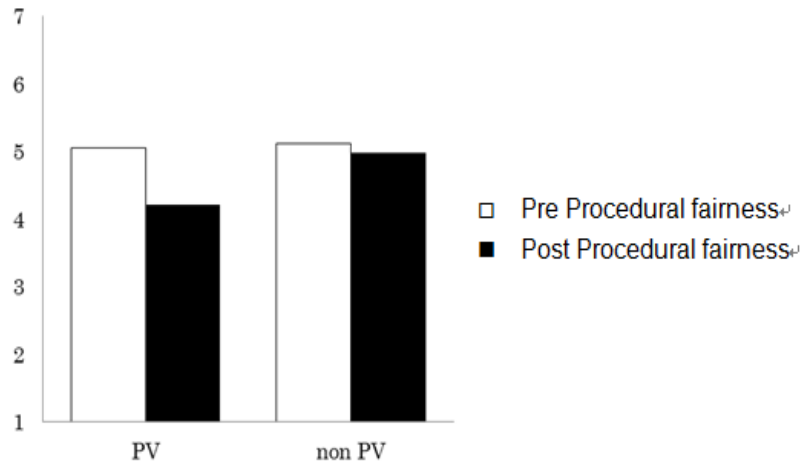


Figure 5. 4. Means of perceptions of pre- and post-procedural fairness among people with (PVs) and without (non-PVs) protected values

5.5.4. Effect of trust in government

We examined whether the effect of protected values on perceptions of procedural fairness was mitigated by trust in the government. We classified respondents into higher and lower trust groups according to their score on the trust measure: respondents with scores in the top 50% of the sample were placed into the high-trust group, and those with scores in the bottom 50% of the sample were placed into the low-trust group. Then, we compared the means for perceptions of post-procedural fairness among the four groups (i.e., PVs and non-PVs in the high-trust groups and PVs and non-PVs in the low-trust groups). As shown in Table 5.2, the difference in the perceptions of post-procedural fairness held by PVs and non-PVs was small in the high-trust group, (t = 0.85, p = n.s.), whereas the difference was significant in the low-trust group (t = 3.58, p = 0.00). This result supports hypothesis 2.

Table 5. 2. Means of post-perceptions of procedural fairness associated with protected values and trust in government

	PVs	Non-PVs
High Trust	5.08	5.38
Lower Trust	3.95	4.69

5.5.5. Structural equation model analysis

Finally, we estimated a structural equation model (SEM) to verify the causal relationship between procedural fairness and protected values. Trust was also included in this model as a mediator to reduce the detrimental effect of protected values on perceptions of procedural fairness. Figure 5.5. shows the estimated coefficients of the model. The model includes only paths that were significant at the 5% level. The link between trust and post-procedural fairness was omitted because it was not significant. The model fit was found to be acceptable: GFI=0.98, adjusted GFI=0.95, CFI=0.98, and RMSEA=0.06.

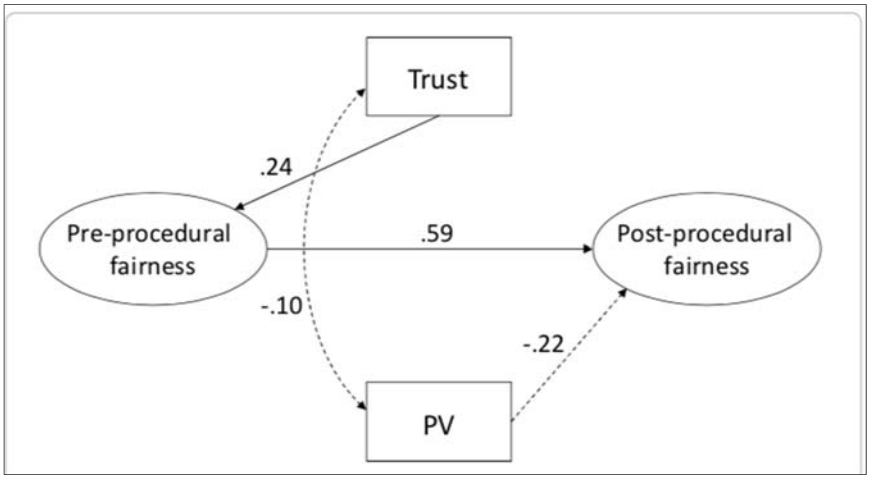


Figure 5. 5 Results of the SEM analysis for post=procedural analysis

Shown in Figure 5.5., protected values had a negative effect on post-procedural fairness. Pre-procedural fairness was positively related to post-procedural fairness, and trust had a positive effect on pre-procedural fairness. Accordingly, trust indirectly affects post- procedural fairness through its influence on pre-procedural fairness. The total effects of these variables as the sums of direct and indirect effects on post-procedural fairness are shown in Table 5.3. Whereas post- procedural fairness was influenced most strongly by initial ratings of procedural fairness, the negative effects of protected

values on post-procedural fairness as well as the mediating effect by trust were also found to be significant.

Table 5. 3. Total effects (standardized of coeficients) on post-perception of procedural fairness

	Total effect	Direct effect	Indirect effect
Post-procedural fairness	0.59	0.59	0.00
PV	-0.22	-0.22	0.00
Trust	0.19	0.05	0.14

5.6. Discussion

The present survey showed that about 20% of respondents had protected values in opposition to the *Simpang 5* project. The proportion of protected responses was generally lower than that shown in previous studies examining the prevalence of protected values in a hypothetical choice. For example, the results of a survey by Lim and Baron (1997) showed that the mean proportion of respondents with protected values among 17 hypothetical choices was 57.24% (*SD* = 17.22) in a Malaysian sample, 59.06% (*SD* = 20.67) in a Singaporean sample, and 57.47% (*SD* = 14.18) in a US sample. A particularly relevant factor affecting the difference between actual decisions and hypothetical decisions is the importance of consequences (Kühberger et al., 2002). As discussed previously, protected values are based on a deontological rule that binds people to a certain decision, independent of the decision's consequences. Protected responses based on such a rule are more likely to appear in hypothetical decision scenarios when respondents are asked to make a hypothetical decision with hypothetical outcomes irrelevant to actual outcomes. On the other hand, as shown in this study, protected responses were less likely to appear in actual decision scenarios, as respondents tended more to take into account actual outcomes if they had to live with them. Yet, as demonstrated

by Baron and Spranca (1997), our results show that some respondents also had protected values associated with the four properties of the deontological rule when making decisions related to an actual problem.

As already explained, previous studies have emphasized the importance of procedural fairness for residents' acceptance of a public decision (e.g., Lind & Tyler, 1988). Yet, the present results suggest that residents' perceptions of procedures fairness can be affected by the presence of protected values. It should be noted that residents' initial perceptions of procedural fairness were shown to still exert a significant impact on their views of the procedures even after they recognize that the project conflicted with their protected values. Even so, however, the present findings regarding the negative effect of protected values indicate that residents with protected values might oppose a project if their values were threatened by the project, even if the project followed fair procedures.

Another findings of our study support the role of trust in government as a mitigator of the derogation effect of protected values on perceptions of procedural fairness. As long as residents trust government, perceptions of procedural fairness can be maintained even if some residents have protected values that are relevant to regional projects. The government should make efforts to promote trusting relationships with residents through, for example, showing their sincerity. Our results, however, show that trust in government does not have a direct effect on the final perceptions of procedural fairness (post- procedural fairness). Furthermore, the negative correlation between trust and protected values suggests that people with protected values tend not to trust government. Thus, the ability of trust to mitigate the derogation effect of protected values may be limited. Therefore, even if trusting relationships between residents and the government can be formed, it would be difficult for the government to completely avoid a situation in which residents' perceptions of procedural fairness are diminished by protected values.

More generally, our findings suggest the need for more fundamental measures that focus on the nature of protected values and allow decision-makers to reach reasonable decisions about regional

projects. As suggested by Baron and Leshner (2000), protected values result from unreflective overgeneralizations that lead to incorrect or overgeneralized concepts. People tend to develop protected values without giving sufficient thought to the possible benefits and costs related to the actions required or prohibited by their values. However, people may change even extremely strongly held attitudes by reflecting on their validity. It is important for local governments to communicate effectively with stakeholders so that those with protected values consider the implications of their opinions on the region.

Note that the present sample consisted predominantly of Muslims, a group that tends to have protected values that often lead to opposition to various projects based on religion. Although religion is likely to lead people to protect their own values (e.g., Lim & Baron, 1997), the relationship between protected values and religion has not been sufficiently examined theoretically or empirically. A cross-cultural study examining the prevalence of protected values in different cultures would contribute to understanding the effects of religion and other demographic variables, such as race and educational level, on the development of protected values. Additionally, given the socially harmful impact of protected values, it is also important to study the psychological processes by which protected values are developed or mitigated. Experimental research that examines the effects of reflective thinking and communication processes on protected values would contribute to developing relevant measures to reduce the negative impacts of protected values.

CHAPTER 6

Protected Values and Illusion of Understanding Around Risk Acceptance: A Vignette Experiment of the Construct of High Level Radioactive Waste

6.1. Introduction

The issue of forming consensus about taking significant community risks, such as the construction of high-level radioactive waste (hereinafter HLW) disposal facilities, incorporates a trade-off between compensation (benefits) when the risk is accepted and values impaired by doing so (Fischhoff and Kadvany, 2011). In such cases, conflict of interest between concerned parties with different interests and values may become marked; the pursuit of one set of values can lead to the impairment of another set of values. In particular, it becomes extremely difficult to form consensus regarding risk acceptance when the parties concerned insist that their values and opinions are absolutely non-negotiable. There are concerns that social decision-making may come to a stalemate in cases where people become polarized regarding a specific policy. This phenomenon is generally known as group polarization (Sunstein, 2000).

6.1.1. The concept of protected values

The abovementioned issues are related to protected values, which have been discussed by Baron and Spranca (1997). Protected values are generally defined as a set of values protected from trade-offs with other values, or an attitude where one will not compare or balance particular important values with other values. In other words, these values are based on an absolute belief that one's values must be protected at all costs. It has been pointed out that people may assign protected values to human and animal life, the natural environment, human rights, divinity, etc. So as not to condone any activities of development that could bring about extinction of plants/animals or acts of buying or selling organs for profit (Baron, 2008; Baron and Spranca, 1997). In addition, it has been pointed out that protected values that refuse the comparison of risks to benefits may be involved in the issue of

restarting nuclear power plants (Sogabe and Hatori, 2013) and the issue of the construction of HLW disposal facilities (Oonuma et al., 2015).

Unlike consequentialism, protected values are considered to be based on deontological rules regarding behavior itself rather than the consequence of the behavior (Baron and Spranca, 1997). Here, deontological rules generally represent rules that govern actions that should or should not be taken, regardless of their consequences. According to Baron and Spranca (1997), protected values may show qualities of 1) "quantity insensitivity," 2) "obligation," 3) "anger," and 4) "posturing" as they are based on such deontological rules (Baron and Spranca, 1997). Firstly, preserved values are not dependent on the consequence of an action and, therefore, one's attitude towards that action is quantitatively insensitive to the "quantity" of the consequence. For instance, those who hold protected values regarding forests tend to think that logging activity is wrong regardless of whether 100 hectares of forest are logged or 200 hectares are logged. Secondly, those holding specific protected values feel that executing that action or stopping that action is a duty imposed on themselves. This kind of sense of duty is considered to be based on an attitude where one tries to protect the values that he/she regards as absolute from trade-offs. Thirdly, those holding protected values tend to harbor a strong sense of anger towards any impairment of those protected values. With regard to this, Tetlock et al. (2000) pointed out the possibility that the very act of trading off one's values with other people's values may induce a sense of anger. Finally, those holding protected values tend to actively assert their opinions during discussions about said values.

When such protected values are involved in situations where decision making regarding public policies is required, it becomes difficult to compare/balance with other values; in some cases, only a specific set of values will be regarded as important, leading to the possibility that appropriate decision-making is not carried out (Baron and Leshner, 2000). In the case of the construction of HLW disposal facilities, Onuma et al. (2015) pointed out that the issue of protected values is unavoidable

when considering the consensus formation required for constructive discussion between those for and against the construction.

6.1.2. Protected values and the illusion of understanding

On the other hand, it is possible that protected values are not formed with sufficient consideration given to the significance or consequence that those values have (Baron and Leshner, 2000; Tetlock, et al., 2000). Based on this possibility, Baron and Leshner (2000) demonstrated that protected values may be attenuated in those holding them when they imagine counterexamples to those values (circumstances in which they had no choice but to accept the action they object to). Similarly, Hatori and Kajiwara (2014) used a dam project as the subject of their study and found that protected values may not be retained when people are given the opportunity to reflect on situations in which their protected values conflict with other values. As seen with protected values, these findings suggest that even if one regards a specific set of values or opinions as absolute, such attitudes can be transformed.

Thus, it is possible that those holding protected values may have not given enough thought to the significance and validity of those values. Now, when we think about those holding protected values who nonetheless regard their values as absolute, the possibility arises that they may have an erroneous perception that they "fully understand" the validity of those values. With respect to this lack of recognition of one's degree of understanding, studies on the "illusion of understanding" have been accumulated in the field of cognitive psychology (Keil, 2003). Rozenblit and Keil (2002) experimentally demonstrated that the general public is convinced that it has a good understanding of day-to-day matters and showed empirical findings about the illusion of understanding. In this experiment, the subjects were asked to describe the causal mechanism by which apparatuses such as helicopters or pianos operate. Subjects' self-assessment of understanding decreased after the experiment compared to before the experiment. This shows that people tend to falsely believe that

they have a good understanding of day-to-day matters and demonstrates the existence of the illusion of understanding. In the present study, we followed the experimental procedures described above and examined the relationship between protected values and the illusion of understanding regarding risk acceptance.

6.1.3. Hypothesis of the present study

Based on the above discussion, we put forward the following hypothesis regarding the impact of the opportunity to independently reflect on one's social values (pros and cons) on self-assessment of understanding and holding protected values in a situation where risk acceptance is involved in the implementation of public policy.

Protected values regarding risk acceptance tend to be attenuated with a decrease in self-assessment of one's own understanding of the public policy in question through independent reflection on the social values (pros and cons) of the public policy.

If the above hypothesis is correct, it can be considered that those holding protected values regarding public policies have overestimated their understanding of these policies. At the same time, it is considered that this kind of illusion of understanding decreases through independently thinking about the social values of public policies, and protected values then tend to become attenuated.

In the present study, we looked at the construction of HLW disposal facilities as a consensus-forming issue regarding risk acceptance in a community in order to verify the above hypothesis. Although there are Japanese laws governing the disposal of HLW, candidate sites for final disposal are yet to be determined and specific project plans remain to be drawn. In view of this, we conducted a vignette experiment survey with the construction of HLW disposal facilities as its theme and residence city as the subjects.

In the present experiment, we set up a reflection task where the subjects considered the pros and cons of constructing HLW disposal facilities; additionally, we asked them about their tendency

to hold protected values regarding the construction of HLW disposal facilities and obtained their self-assessments of understanding before and after the task. Specifically, as a reflection task regarding HLW disposal facilities, we asked the subjects to freely describe the social values (pros and cons) of HLW disposal facilities. Here, according to Keil (2003), the illusion of understanding regarding matters of the real world is associated with the inability to adequately explain those matters. This being the case, it was expected that the self-assessments of participants' understanding would decrease if, through the reflection task, the participants realized that they were unable to adequately explain the social values (pros and cons) of HLW disposal facilities. Also, if the hypothesis of the present study was correct, we believed that the tendency to hold protected values would become attenuated through the task.

As mentioned above, studies conducted by Baron and Leshner (2000) and Hatori and Kajio (2014) have also confirmed that protected values tend to become attenuated when one independently reflects on counterexamples and conflict situations. However, these studies did not examine how people holding protected values evaluate their understanding of issues in question that require decision-making. Therefore, the relationship between protected values and the illusion of understanding remains unclear.

6.2. Experiment

6.2.1. Experimental participants

We conducted an experiment involving 102 students of Ehime University which using questionnaires. The participants included 67 men (65.7%) and 35 women (34.3%), with an average age of 18.89 years (standard deviation = 0.90 years).

6.2.2. Experimental procedures

The experimental procedures of the present study are shown in Figure 6.1.

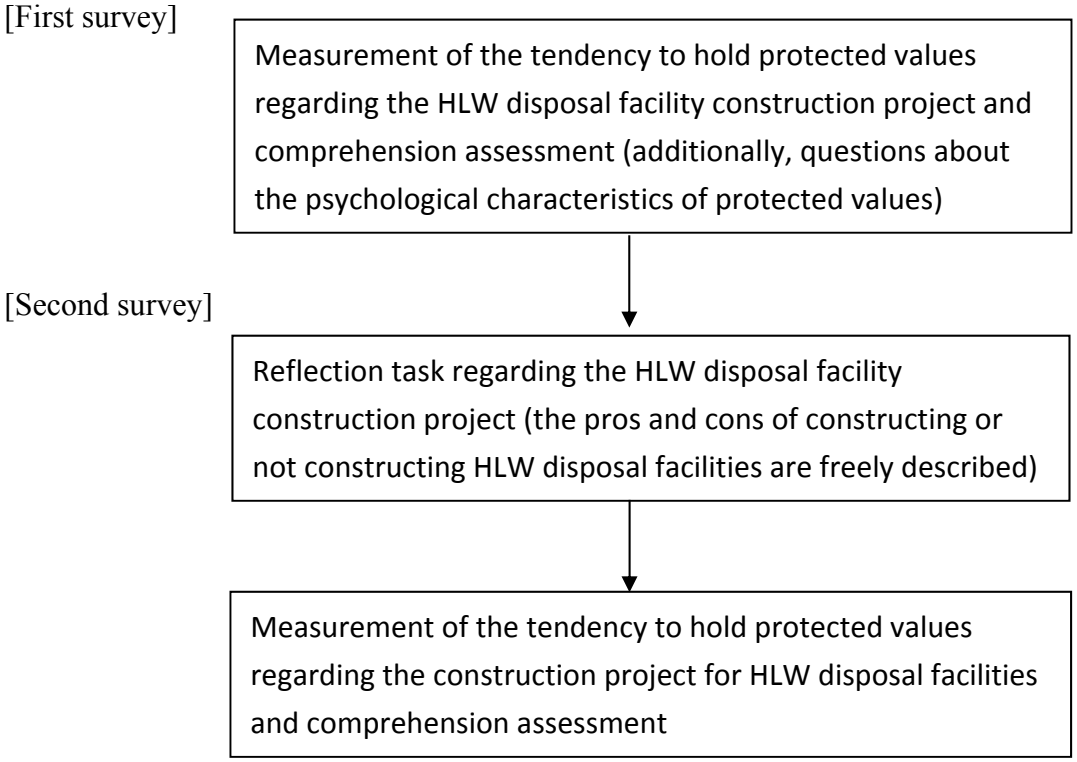


Figure 6. 1.Flow chart of the experiment

First survey. We presented the participants, who were assumed to be residents of City A, with a virtual scenario where construction of an HLW disposal facility in A City was planned in order to assess the tendency to hold protected values regarding the construction. We asked the participants to select one choice that reflected their attitude toward the project: (1) “construction of a final disposal facility is absolutely unacceptable, no matter how much benefit it may bring”; (2) “construction of a final disposal facility is acceptable if it will bring enough benefits”; or (3) “I support the construction of a final disposal facility.” Here, according to the classification presented by Baron and Spranca (1997), the participants that selected choice (1) were classified as protected value holders (“PV

group"), and the remaining participants were classified as non-protected value holders ("non-PV group").

We asked the participants to assess their understanding of the impact of HLW disposal facility construction and to respond on a 7-point scale ranging from "do not understand at all" to "understand well enough." We then created a scale on which "7" represented "understand well enough" and "1" represented "do not understand at all." Furthermore, in order to examine the degree of confidence held by the experiment participants with regard to the HLW disposal facility construction project, we created a scale for "confidence" and asked them to assess their opinions about the project on a 7-point scale ranging from "1: it may be wrong" to "7: it is not wrong." In addition to these questions, we asked the participants to respond to questions shown in Table 6.1. regarding the psychological characteristics of protected values, as mentioned earlier.

Table 6. 1.Measurements of the psychological characteristics of protected values and evaluations according to possession of protected values

	PV group	Non-PV group	
	Mean (*SD*)	Mean (*SD*)	*t*-value
1) Quantitative insensitivity			
Regardless of the risk level of radiation leakage, the construction of a final disposal facility is equally wrong.	3.96 (1.41)	3.00 (1.14)	3.78***
2) Sense of duty			
You think that "we are obligated to stop the construction of the final disposal facility."	4.76 (1.70)	3.50 (1.54)	3.93***
You think that the only moral choice for you is to call off the construction of the final disposal facility.	4.22 (1.19)	2.84 (1.26)	5.63***
3) Anger			
You feel resentment toward the construction of the final disposal facility.	4.04 (1.49)	2.73 (1.30)	4.75***
You become irritated just by thinking about the construction of the final disposal facility.	3.09 (1.75)	2.29 (1.35)	2.62**
4) Posturing			
(Please imagine that you are taking part in a civic debate about the construction of the final disposal facility)You think that you should actively express your opinion about the project in such situations.	5.70 (1.19)	4.73 (1.34)	3.80***

(Response on a 7-point scale ranging from "(7) strongly agree" to "(1) strongly disagree")

*** $p < .001$, ** $p < .01$

Second survey Two weeks after the first survey, we asked the participants to freely describe the pros and cons of HLW disposal facility construction as a reflection task.

We then asked them to self-assess their tendency to hold protected values and their understanding of the HLW disposal facility construction project, as was done in the first survey. Subsequently, we again divided the participants into the "PV group" and "non-PV group" based on their responses.

6.3. Results

6.3.1. Tendency to hold protected values and associated psychological characteristics

Of the 102 experiment participants, 46 of them (45.1%) were identified as holding protected values and grouped into the PV group, while the remaining 56 (54.9%) were grouped into the non-PV group at the time of the first survey.

We then compared the related measures associated with the psychological characteristics of protected values between the PV group and non-PV group at the time of the first survey (Table 6.1.). The results showed that compared to the non-PV group, the PV group tended to show higher quantitative non-sensitivity ($t = 3.78$, $p = .00$), sense of duty ($t = 3.93$, $p = .00$; $t = 5.63$, $p = .00$), anger and resentment ($t = 4.75$, $p = .00$; $t = 2.62$, $p < .01$), and tendency to display their opinions ($t = 3.80$, $p = .00$). These results are consistent with what Baron and Spranca (1997) pointed out as the characteristics of protected values, and they once again suggest that protected values are based on deontological rules.

6.3.2. Changes in protected values and assessment of understanding

We compared the distribution of protected values before and after (at the time of the first and second survey) the reflection task regarding the social values of HLW disposal facilities (Table 6.2.). The results showed that 17 (37.0%) out of 46 participants in the PV group at the time of the first survey had converted to the non-PV group after completing the reflection task. On the other hand, 3 (5.4%) out of 56 participants in the non-PV group at the time of the first survey had converted to the PV group. A comparison of the PV group at the time of the first and second surveys showed that there

was a significant difference (45.1% at the time of the first survey, 31.4% at the time of the second survey, $z = 2.01$, $p < .05$).

Table 6. 2. Distribution of the possession of protected values in two surveys

		At the time of the second survey		
		PV group	Non-PV group	Total
At the time of the first survey	PV group	29 (63.0%)	17 (37.0%)	46 (100%)
	Non-PV group	3 (5.4%)	53 (94.6%)	56 (100%)
	Total	32	70	102

Furthermore, we compared the means of understanding and confidence regarding HLW disposal facilities before and after the reflection task (Table 6.3.). With respect to the understanding assessment, there was a significant trend in the difference between the first survey and the second survey, with the means tending to be higher at the time of the second survey. The confidence assessment showed no significant difference.

Table 6. 3. Evaluations of self-assessments of understanding in two surveys

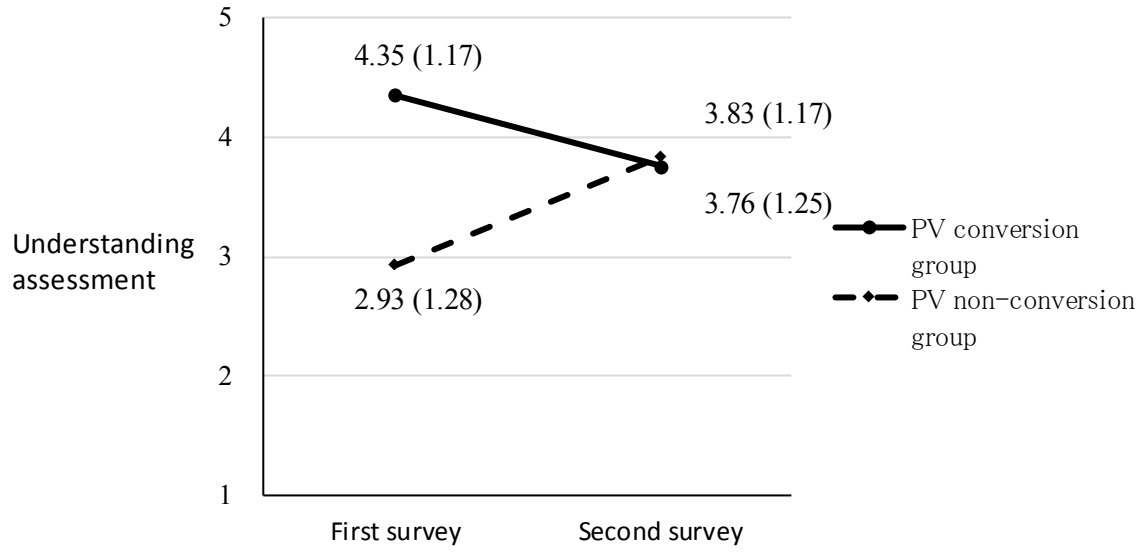
	First survey	Second survey	
	Mean (*SD*)	Mean (*SD*)	*t* value
Understanding assessment	3.47 (1.45)	3.72 (1.26)	-1.71 †
Confidence assessment	3.16 (1.64)	3.08 (1.49)	.50

† $p < .10$

6.3.3. Relationship between protected values and assessment of understanding

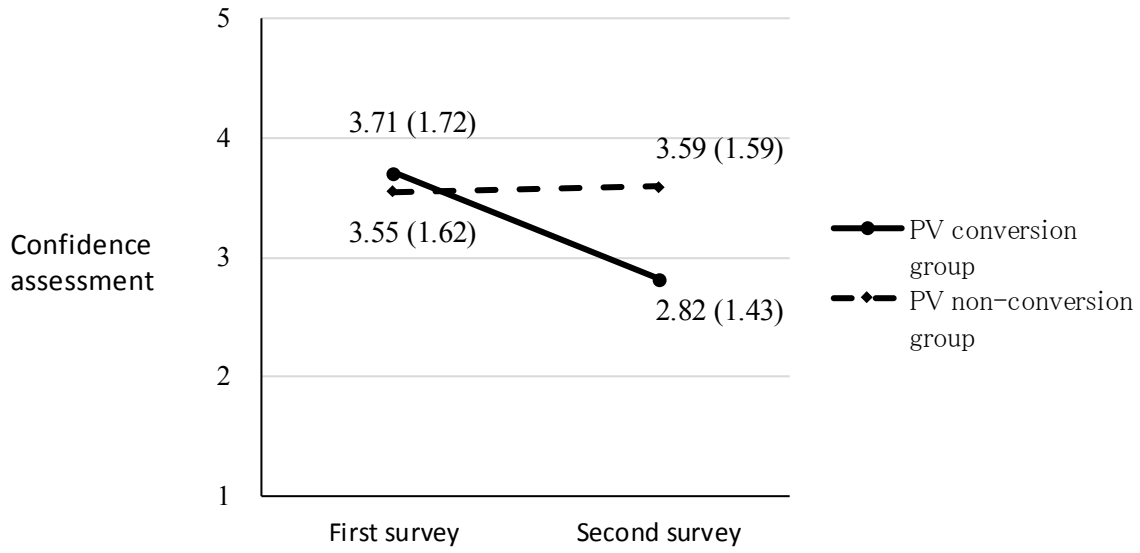
We examined how the understanding and confidence assessments regarding HLW disposal facilities changed among those whose protected values became attenuated and those whose protected values did not become attenuated through the reflection task. We grouped those who held protected

values at the time of the first survey (PV group) and those who converted from the PV group to the non-PV group at the time of the second survey into the "PV conversion group," grouping the rest into the "PV non-conversion group"; we then compared the between-group difference in the understanding assessment and confidence assessment between the first and second surveys. The results are shown in Figure 6.2. and Figure 6.3. As the figures show, both understanding and confidence decreased in the PV conversion group, while there was a trend of increase in the PV non-conversion group. We therefore performed a two-factor repeated measures ANOVA on the survey time points (the first and second surveys) and whether PV conversion took place (the PV conversion group and the PV non-conversion group). The results showed that there was a significant interaction between the two factors in the understanding assessment ($F(1, 44) = 9.73$, $p < .01$), and there was a significant trend in the confidence assessment ($F(1, 44) = 3.13$, $p = .08$).



※Values in brackets represent standard deviation

Figure 6. 2. Means of self-assessments of understanding before and after the experimental work associated with the change in protected values



※Values in brackets represent standard deviation

Figure 6. 3. Means of self-assessments of confidence before and after the experimental work associated with the change in protected values

6.4. Discussion

The present experiment showed that the possession of protected values regarding the HLW disposal facility construction project tended to decrease through the reflection task addressing the social values of the project. In particular, it was shown that in approximately 40% of those who held protected values, their protected values tended to be attenuated through the experiment. Furthermore, there was a relationship between the attenuating tendency of protected values and the decrease in the understanding assessment before and after the experiment task. Those whose self-assessments of understanding the HLW disposal facilities decreased tended to show attenuation in protected values. From a different perspective, these results indicate that those who held protected values regarding the HLW disposal facility construction project prior to the experiment assessed their own understanding of the project as high, and it is highly possible that they had developed the illusion of understanding discussed by Rozenblit and Keil (2002). We therefore believe that protected values became attenuated

as the illusion of understanding became attenuated through the explanation task of the present experiment. The above results support the hypothesis of the present study.

The above discussion suggests that those who held protected values regarding the HLW disposal facility construction project may face a double challenge in properly assessing the social values of the project. First, it is possible that those holding protected values may not give enough thought to the social values (pros and cons) of HLW disposal facilities in the first place. This possibility is consistent with the findings of previous studies (Baron and Leshner, 2000; Hatori, Kajio, 2014) indicating that those holding protected values do not give enough thought to situations where the values they believe in come into conflict with other values. Second, it is possible that, despite not having given enough thought to the decision in question, as mentioned earlier, those holding protected values may falsely believe that they have a good understanding. Therefore, there is concern that such people may hold an illusion of understanding where they are unaware that they do not understand.

6.4.1. Implications for the issue of consensus formation

Here, we discuss the results of the present study in terms of consensus formation regarding risk acceptance, which arises in relation to public policies and their implementation.

First, the results of the present study suggest that protected values regarding public policies and risk acceptance may not necessarily be absolute or invariable; they may be altered, depending on the situation. In other words, it is possible that those holding protected values may not give enough "thought" to their values and, therefore, those protected values can be expected to spontaneously transform if the individual thinks about the validity of those protected values. In situations where consensus formation on public policies is required, it is not uncommon for the decision-making process to be affected by "those with a strong opinion" and "those that are vocal" (c.f. Kuwako, 2011). However, the results of the present study imply that the opinions of "those with a strong opinion" and "those that are vocal" may not necessarily have been formed through an adequate thinking process.

Decision makers in charge of public policies should pay careful attention to this point and encourage consensus formation among stakeholders.

Second, based on the results of the present study, it is important to provide opportunities for independent reflection where stakeholders can think about the social values of the policies in question in order to promote consensus formation on public policies. The issue of whether people will accept a public policy is generally called a public acceptance issue, and various studies on the topic have been conducted so far (Aoki, 2006; Fujii, 2003). With regard to the HLW disposal facility construction issue, the importance of procedural justice and trust (Ootomo et al., 2014; Sakamoto and Kanda, 2002) has been pointed out as a condition for promoting public acceptance, and this has provided important suggestions for considering the decision-making process and consensus-formation process regarding public policies. However, previous studies have not adequately or empirically examined what effects a reflection process (in which one "thinks" about the social values of public policies) has. The results of the present study suggest that such reflection opportunities play an important role in attenuating people's attitudes that render their opinions and values absolute. As mentioned in the beginning, conflict of interest regarding risk acceptance may become serious when the stakeholders adopt a tough attitude, as seen in protected values. It is important to facilitate communication that promotes reflection on the policies and attenuates the problem of protected values in order to mitigate such conflicts of interest.

Now, a specific approach to providing such reflection opportunities may be to arrange an opportunity to think about the pros and cons of the policy, as was done in the present study, for instance when facilitating civic dialog or risk communication between experts and the public regarding public policies. As mentioned earlier, the effects of such reflection opportunities may include people becoming aware that their understanding of the policies in question is not complete, in addition to thinking about both the pros and cons of the public policies. It is expected that these effects will promote the attenuation of protected values regarding the policies and encourage sounder

judgment in participants. In particular, the approach used in the present study was designed with the intention that the participants would think for themselves about the social values of public policies, and it is unique in that its purpose was not to sway the participants to follow a particular set of values or opinions. In this regard, the approach of the present study eliminated arbitrary guidance intended to sway participants to a specific opinion as much as possible; it was designed for each participant to spontaneously come to an appropriate social decision about the policy in question.

6.4.2. Subjects for future investigation

Finally, we will discuss subjects for future investigation. First, a virtual scenario regarding an HLW disposal facility construction project was presented to residence of Makassar, and the protected values of the parties involved in actual HLW disposal facility construction projects were not examined. At present, candidate HLW disposal sites have yet to be determined in Makassar, Indonesia. However, there are a number of municipalities where the issue of inviting HLW disposal facilities has arisen (Uemura and Kawamoto, 2008). Important issues to be addressed in the future include focusing on such municipalities and shedding light on both the protected values held by local residents and the challenges within their individual and specific contexts. Secondly, although the present study showed that there was an interrelationship between the possession of protected values and the illusion of understanding regarding risk acceptance, the psychological mechanism behind the relationship and causal association remains to be elucidated. Here, the illusion of understanding, which is a psychological phenomenon, is a problem associated with the metacognition of one's own understanding (Everson and Tobias, 1998; Sannomiya, 2008). We may be able to gain further insight into the relationship between protected values and the illusion of understanding by examining the cognitive and learning processes regarding protected values from the perspective of metacognition. Finally, a variety of specific approaches are conceivable for introducing reflection opportunities in settings of consensus-formation processes and risk communication regarding public policies. We will

further examine how to arrange reflection opportunities in order to encourage the attenuation of protected values in real-life situations of consensus forming and risk communication. Verification of the effects through social experiments is also an important task.

CHAPTER 7
General Conclusions

This section includes the conclusions of the study, the new findings and the implications of the literature and/or policies.

The process of making decisions is a method in solving a problem which considers various factors as well as the desired outcome one wishes to achieve. A good decision is obtained when all stakeholders were accepting of it without any conditions. In many developed countries, the infrastructure projects carried out by the government generally do not get good levels of acceptance from the residents. For instance, the highway construction project, waste disposal facilities, and displacement policy. Mainly, projects that have a direct impact on the resident such as removing or demolishing a sacred place, relocating residents to a new location and environmental damage, the residents will have a strong opinion or protected value in opposition to the projects. This study focused on the psychological aspects as relevant factors that have effects on residents' acceptance of actual projects, to which minimal attention has been given by previous research.

This research has attempted to explore a deeper understanding of the residents' attitudes toward infrastructure projects in Indonesia. Based on the research findings, we conclude that protected values have correlation with consensus building (acceptance), when protected values are higher, then acceptance is lower and vice-versa. For instance, when the public disagreed with the project proposal, the government was unable to implement or even to postpone it. However, if the public agreed with the project, the government was able to implement the project smoothly. Gaining support from the residents may also assist the authorities in raising project funds. It is proven that protected values have correlation with consensus building (acceptance).

Furthermore, the study also found that protected values have association with procedural fairness in the decision process of infrastructure projects. In this case, perceived distributional fairness of costs, environmental burdens and procedural fairness are linked to a higher public acceptability

and can decrease protected values. We found that project proposals developed through deliberation were more likely to be accepted by respondents with protected values. Their perception of procedural fairness was also rated higher. These results suggest that, even if people originally think that a project proposal conflicts with their protected values, they might come to accept it as long as the decision procedure is fair and valuable. We may conclude that people's protected values can be overcome or reduced by fair procedures. As it is known, the higher the protected value, the smaller the acceptance; but if the project is implemented with fair procedures, the high protected value can decrease, and then public acceptance will increase as well.

This study seeks also to develop an effective policy measure to mitigate negative impacts of protected values. The decision-makers who are in charge of public policies should pay attention on this point and realize that they cannot gain residents' acceptance of infrastructure projects simply by offering compensation. They should consider the importance of residents' attitude, behavior and their trust to implement this project. This assessment will encourage consensus formation among stakeholders. It is important to provide opportunities for independent reflection where stakeholders can consider the social values of the policies in question in order to promote consensus formation on public policies. A reflection opportunity plays an important role in attenuating people's attitudes that render not only their opinions and values, but also provides an opportunity to think about the pros and cons of the policy. Last but not least, a communication facility that promotes reflection on the policies and attenuates the problem of protected values in order to mitigate such negative impacts of protected values.

We suggest that public involvement, consultation and independent reflection should become the important things to consider in decision policy-making. This might be an effective strategy to introduce the project by providing information about the processes and effect of the project to residents, creating the exchange of adequate information flow between government and resident. This may serve as a cornerstone for the project process, as it found trust is related between government

and residents, and it provides the opportunity for resident's concerns to be counted. Finally, this is an essential of policy measure to encourage the planning and implementation of infrastructure projects.

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