HOW POWER AFFECTS MORAL JUDGMENTS

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## Declaration

I, Mufan Zheng, confirm that the work presented in this thesis is my own. Where information has been derived from other sources, I confirm that this has been indicated in the thesis.

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**Abstract**

People in powerful positions often make decisions that have moral implications. Lammers and Stapel (2009) proposed that high power increases deontological (rule-based vs. utilitarian or outcome-based) moral reasoning. Yet, the links between power and moral reasoning remain poorly understood. Ten studies tested the replicability, generalizability, mechanisms and context specificity of the links between power and moral judgments. Contrary to Lammers and Stapel argument that power leads to deontological reasoning, I argue that the links between power and moral judgments are flexible and situated. They are dependent on processing style and the focal goals that emerge in association with power roles.

Study 1 was an exact replication of the prior findings. Study 2 examined moral judgments in an organisational setting. Studies 3 and 4 investigated how power and the presence/absence of harm to life interacted with preferences for deontological versus utilitarian moral judgments. In Studies 5 and 6, I tested whether processing style modifies the moral reasoning of powerful and powerless individuals by manipulating cognitive load and deliberative thinking. Studies 7 to 10 examined how active goals (regulation- and person-centred goals) guide the moral judgments of power holders (vs. powerless individuals), and also assessed the motivation to maintain authority and the role of goal commitment.

Consistent with past research power holders, by default, were inclined to make deontological judgments. This was triggered by intuitive reasoning preferences. However, power differences in moral reasoning were dependent on focal goals. Power holders were motivated to maintain authority and were more committed to focal goals, and this led to greater context specificity in the moral judgments of power holders compared to those of powerless individuals.

**Impact Statement**

Research on how power affects moral judgments provides an answer for a longstanding quest for the understanding of the links between power and morality, and facilitates the practice in organisations.

Power holders control social resources and hold the right to make decisions involving the public. From 1970s, there was increasing concern about how power changes people's mind and morality. Much evidence shows that increased power leads to immorality, such as incivility and selfish behaviour, but a few studies focus on how power affects neutral moral thinking style.

The current work demonstrated that the powerful and the powerless show a distinctive pattern of moral judgments. Power holders were found to rely on deontology to make moral judgments and maintain the current rules, and people lacking power were found to be more practical and use utilitarianism to make judgment. This was confirmed by cross-culture studies, and was confirmed in experimental contexts and in organisations. The findings contribute to establish the ecological validity and generalizability of the links between power and moral reasoning. Besides these, the study offered several parallel explanations for how power affects moral judgments: cognitive processing style, goal focus, goal commitment and the desire for authority maintenance.

Examining the role of cognitive processing style and goal focus as underlying processes provides insights about how power affects the mind. Power approach/inhibition theory posited that power increases the reliance on automatic social cognition, while lacking power leads to the use of controlled social cognition. This study showed that power also promotes automatic cognition (intuitive thinking) in the process of moral thinking and moral judgments. The findings also provided support for the situated theory of power (Guinote, 2007) in moral domain. Power holders treat the choices of moral principles as a strategy to serve their goals. Therefore, one novel contribution consists in showing that moral judgments are amenable to the influence of active goals. Few studies directly investigated how goal

focus affects moral judgments, especially about the choice in the conflict between deontology and utilitarianism.

The present findings provide insights for the decision makers in powerful positions in organisations and the political area. Differences in the perspectives of powerful and powerless individuals can create organisational or societal conflict. Knowledge of the epistemological viewpoints triggered by hierarchy can be useful to manage those conflicts.

The current work also indicates that power holders show deontological preferences accompanied by intuitive effortless processes, unless the context calls for deliberation. This may lead to no fully consideration about the benefits of all sides. Thus, organisations can set up regulations to keep the persons in the authority position have deliberative processes before important decisions.

The goal focus orientation of power holders guides their moral judgments. This orientation may lead to short sightedness of the powerful. People with power and authority may over focus on the current context, goals, tasks at hand, and ignore benefits for most people, whom they cannot see, and the long-term outcomes. This finding cautions people who are in high power positions to balance the current task and long-term goals.

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# Chapter 1: Introduction

For decades, the relationship between power and morality has received a great deal of attention. Power holders usually control resources and hold the right to make decisions that involve the public (Emerson, 1962; Galinsky, Gruenfeld, & Magee, 2003; Keltner, Gruenfeld, & Anderson, 2003). As many of these decisions have moral implications, many studies have consequently investigated how power influences morality; for example, incivility and selfish behaviour (e.g., DeCelles, DeRue, Margolis, & Ceranic, 2012; Gruenfeld, Inesi, Magee, & Galinsky, 2008; Lammers, Stapel, & Galinsky, 2010; Lammers, Stoker, Jordan, Pollmann, & Stapel, 2011).

Power is defined as the capacity to modify the state of others by providing or withholding resources or administering punishments (Galinsky et al., 2003; Keltner et al., 2003). Controlling others is the core feature of the definition of power. People may sometimes confuse the definition of power with related– but different– concepts, such as high social status, leadership and the internal locus of control. While these concepts and power sometimes overlap with one another in practice, they are different notions (Weber, 1947). Social status – a relative position in social hierarchy – represents the attributes that differ in liking, respect and prominence; it determines the allocation of resources in a social hierarchy or group (Fiske & Berdahl, 2007; Keltner et al., 2003). People of lower social status can also hold power in certain situations (e.g., a student leader in a high school society) and people

without power can be regarded as having a high social status (e.g., European aristocrats). Leadership is an influence process in which the leader persuades other group members to achieve set organisational goal (Chemers, 2001). Locus of control the degree to which people believe that they have control over the outcome of events in their lives, as opposed to external forces beyond their control, while power is mainly about controlling others (Rotter, 1966),

People in authoritarian positions often make moral judgments, which are evaluations (good vs. bad) of the actions or characters of a person that are made with respect to a set of virtues held to be obligatory by a culture or subculture (Haidt, 2001). One individual could bring benefits or harm to others by their moral judgments. Crucially, besides moral valence (good vs. bad), there are other domains in morality research that include moral perception, moral reasoning and moral intention etc. (Srnka, 2004); these have been neglected in previous power research. For instance, the recent abrupt increase in the number of refugees across the world raises a dilemma concerning how to balance the fundamental human right to asylum with the demand that this makes on resources. Policies that either prioritise asylum rights or promote security and population concerns relate to deontology and utilitarianism moral theories respectively. A deontological decision involves rules and duties (such as taking care of life) without considering other consequences. The utilitarian alternative overrides these considerations if they do not provide the greatest good for the majority of society (Bentham, 1948; Darwall, 2003a, b; Kant, 1785).

So, how does social power affect people's perception of moral or ethical issues? To our knowledge, only a few studies have shown how power influences reasoning about ethical issues. This research aims to focus on the relationship between power and moral judgments from the perspective of deontology and utilitarianism. Specifically, we will replicate the prior findings of Lammers and Stapel (2009) regarding the association between power (vs. lacking power) and deontology (vs. utilitarianism) first, before examining the generalisability of this effect. Then, we will investigate how the context (presence/absence of harm to life) modifies the effect of power on moral judgments. Also, we are interested in the psychological processes that contribute to explaining why power affects moral judgments. We believe that the effect of power on moral judgments should follow the general rules by which power affects cognition. Therefore, we investigated the underlying psychological processes of the relationship between power and moral judgments according to three classical power theories. Based on the power and approach/inhibition theory, we will test the role of intuitive/deliberative cognitive processing style. Goal focus will be examined according to the situated focus theory of power. The motivation to maintain authority will be also studied based on the power-as-control theory. Together, this research will provide insights on the prevalence of the links between power and deontological reasoning, as well as their boundary conditions and underlying mechanisms.

This chapter will introduce the content of 'power' and 'moral judgments' separately in Sections 1.1 and 1.2. Section 1.1 will first define power, following how

power will be manipulated and measured in this research. The theoretical models in power research will be discussed, as they provide logical support for a study focused on why power can affect moral judgments (Chapters 3 and 4). The role of intuitive/deliberative cognitive processing style will be studied based on the power and approach/inhibition theory, and the role of goal focus will be studied based on the situated focus theory of power. According to the power-as-control theory, the motivation to maintain authority will be also studied. Next, we review the psychological consequences of having power to provide further evidence for the relationship between power and intuitive thinking, between power and goal focus, and between power and the motivation to maintain authority. Similarly, Section 1.2 discusses the related concepts of moral judgment and the paradigm used to assess moral judgments in the current research, i.e., moral dilemma. Then, we compared intuitionist and rationalist model of moral judgments, among which the intuitionist model provides theoretical possibility for the influence of power over moral judgments. Later, empirical evidence is further introduced to support the role of harm, cognitive factors, motivation/goal and culture in moral judgments.

Section 1.3 integrates the evidence of Sections 1.1 and 1.2 by establishing the rationale for the present study; it discusses how power affects moral judgements in different contexts, as well as the role of processing style, goal focus and authority maintenance as possible underlying processes. Finally, Section 1.4 outlines the main objectives of the present research.

## 1.1 Power

The word power derives from the Latin word *potere*, meaning to be able. In this research, we adopted the following definition of power: power is defined as the capacity to modify others' states by providing or withholding resources or administering punishments (Galinsky et al., 2003; Keltner et al., 2003). As a central concept in social sciences, power should be understood from social relations. One person cannot possess power without other individual(s) as a powerless side (Overbeck, 2010). These relations could be between individuals or groups (Emerson, 1962).

Power can be observed in nearly all social networks and social structures. At a macro level, power emerges within states, economic and political organisations, religious institutions and the military (Mills, 1999). At a middle level, nearly all social categories and membership in social groups could generate power differences (e.g., gender, occupation, generation, hobbies, culture etc.) (Guinote, 2017; Shibutani, 1955). In small settings, power also exists in families and intimate relationships (Guinote, 2017).

Power has received much attention from sociology, philosophy and politics over the centuries. Researchers have proposed several important theories related to power; for example, types of power sources and bases (French & Raven, 1959), and the power dependent theory of Emerson (1962). Sociology, philosophy and politics mainly regard power as a socio-structural variable (e.g., Ng, 1980). These fields discussed the sources of social power by considering human nature, the social

dynamics of power relationship and how power influences social development

(Mann, 2012). From an evolutionary perspective, power emerges to help advance the

needs of groups. Power structures occur in small hunting and gathering societies to

help peacekeeping, religious activities, and dealing with problems of group

movement and inter-group rivalries (Guinote, 2017; see also Van Vugt et al., 2008).

Classical research into social power focused on stable social influencing factors,

such as individual differences (e.g., power motivation), social structure factors (e.g.,

social status, the legality of power) and interactive factors (e.g., control, dependence

and social exchange) (French & Raven, 1959).

Only over the last 20 years have researchers started to study social power as

one type of psychological state (e.g., Galinsky et al., 2003). People can form internal

representations about power relative to others in specific contexts or relationships

(Anderson & Galinsky, 2006; see also Bugental, Blue, & Cruzcosa, 1989). This

sense of power can be activated whenever cues related to the possession of power

occur in context, or when past experiences about power are asked to be recalled

(Chen, Lee-Chai, & Bargh, 2001; Galinsky et al., 2003). Everyone can experience

power at some points in their life if only they control resources to influence others.

Furthermore, researchers also proposed that power feeling can be induced by

experimental manipulation (e.g., Bargh, Raymond, Pryor & Stack, 1995; see also

Anderson & Galinsky, 2006).

The present research studies power from this perspective and aims to explore

how power as a psychological state affects moral reasoning. Also, we examine if

social power as a chronic structural characteristic also shows the same effects.

To systematically introduce and clarify the concept, this section first offers a review of historical concepts and definitions of social power, and then discusses the distinction between power and other related variables. Section 1.1.2 discusses how power will be manipulated and measured in this research, and Section 1.1.3 discusses the classical theories of the purpose and exercise of power that provides theoretical explanations for how and why power affects moral judgments. Section 1.1.4 presents the findings into how power affects cognition, behaviours and goal focus to support the rationale of the current research. The last section will discuss how power affects morality and moral judgments.

### 1.1.1 What is Power?

Power is a label referring to a range of intrapsychic and interpersonal phenomena. The focal phenomenon in different studies or definitions differ from each other (Overbeck, 2010). However, these definitions still share common features. First, all definitions of social power are concerned with how individuals within a social unit experience power. Meanwhile, social power is an explicitly relational construct, and power only exists in a relationship; one individual cannot be powerful without another as powerless side (Overbeck, 2010).

As mentioned above, we hold the view that power is an individual's relative capacity to control over resources and others' outcomes. Power holders are able to modify others' states by providing or withholding resources or administering

punishments (Fiske, 1993; Galinsky et al., 2003; Keltner et al., 2003). 'Control' is

the core feature in the definition of power (Fiske, 1993). However, a range of

features were proposed to understand power (Overbeck, 2010), including

power-as-control, power as influence, power from consent, power as identity and a

personal sense of power. Other features also constitute power, but control is the only

determinant factor when judging if one individual holds power. For instance, when a

person is able to hold an influence over others, they own the power. However, not all

power holders must influence other(s).

When we judge if power exists or try to manipulate power, all these

phenomena can be treated as features of power. In experiments, the manipulation of

power may be involved with these phenomena or factors. For instance, when we

manipulated power with recalling a past event task, some participants wrote episodes

focusing on how they influence others, while some described the processes of how

they get the power from others' consent. However, control – as the core and

determinant feature – always exists in every power relations, while other phenomena

may only infrequently occur. This section will first introduce these phenomena of

power in this research.

**Types of Power.** There are various types of power in practice. This project

will not specially distinguish different types of power, and all types of power are our

study targets. Generally, sociologists believe that there are five types of power

sources (bases) (French & Raven, 1959):

1) Reward power. This power derives from the ability that power holders

possess to administer rewards, including both giving positive outcomes and withdrawing negative outcomes from other people.

2) Coercive power. This type of power refers to the ability and strength that power holders own to punish, including principle and punishment.

3) Legitimate power. As the most common type of power, legitimate power is given through a role or position. It is not necessary to depend upon the relation of power holders and others, or the way that power holders use to influence others. Instead, this comes from culture value, social structure and the designation by the legitimising agent.

4) Referent power. Identification with specific characteristics of people in authority positions brings this kind of power. People respect and identify the person with the specific characteristics; they are willing to be influenced by him/her, independently of whether rewards or legitimacy are present or not.

5) Expert power. Some professions involving knowledge, skills and experience provide bases for this type of power. People treat those with expertise as an example.

Expert power is similar to referent power, but they are different types of power. Referent power highlights power holders' characteristics and personality; for example, one person with great ambitions and leadership may gain followers. In contrast, expert power mainly focuses on knowledge and skills. Unique skills and knowledge bring control over resources and influence. Other people who need these skills become the powerless side relative to the person who owns the

skills. More recently, power bases have been re-classified into social control (harsh bases) and influence (soft bases) (Fiske & Berdahl, 2007).

In practice, these types of power can exist independently. However, on occasion, one power holder can hold several types of power. For instance, one with legitimate power given by a position can also hold the right to reward or punish subordinates, while another may own expertise and respectable characteristics concurrently.

**Power as Relation.** One necessary requirement for the existence of power is that it must exist in relation. The very early and classical concept of power proposed by Max Weber (1947) stated that power entails "ties of mutual dependence" (p. 32); it is not able to exist on only one side. For instance, "'X has power' is vacant, unless we specify 'over whom'" (Emerson, 1962, p. 32). Besides this, most researchers thought that power is associated with control over resources and others' outcome, influence and goal pursuit (e.g., Fiske, 1993; Guinote, 2007c; see Guinote, 2017). Emerson's (1962) power dependence theory highlights the equation between two sides of the power relationship. The power that A owns over B equals the dependence that B has on A.

People may confuse power with an internal locus of control and think that one individual holds power when they are able to control their own fate. However, power must exist in relation with other(s), controlling one's own fate by oneself should be defined as an internal locus of control.

Although power must exist in relation, power as relation is not the central

feature of the definition of power; this is owing to power being a special 'control' relation compared to other common relations. It is only when A has control over B in the relation between A and B that this relation can be described as A having power over B.

**Power-as-Control.** Control is the core feature to define power. Dahl's (1957) theory discussed power from the perspective of controlling others. He agreed power was a relationship, but also listed properties of the power relation. First, there exists a time interval from the actions of the power holder and the responses of the corresponding powerless side. Then, there is no distance between the action of power holders and the responses of the powerless side. Finally, power holders could get the powerless side to do things that they would not otherwise do.

The earliest clear psychological definition of social power should be from Fiske (1993), who defined power as asymmetrical control over another person's outcomes. A power holder controls other people and the environment they reside in, and they hold the motivation to maintain the current control. In contrast, persons in powerless positions lack control and seek to restore control by paying attention to those who control their outcomes. This theory, called as power-as-control theory, also explains how power exercises, and it will be described in more details in Section 1.1.3. Many later researchers also defined power from the perspective of controlling resources. Keltner et al. (2003) defined power as the capacity to modify others' states by providing or withholding resources or administering punishments. Power holders can control the thoughts, feelings and behaviours of their subordinates. Galinsky and

his colleagues defined power as the ability to control resources – their own and others – without social interference (Galinsky et al., 2003). Power holders already have control over the resources by themselves, and they easily satisfy their own needs and desires; thus, they depend less on the resources of others (Fiske, 1993; Galinsky et al., 2003).

Fiske (1993) proposed that control is the core factor of power and took the example of another common view that treats influence as the power. She mentioned that, because people may have power without influence if the subordinates refuse to be influenced by them, they still hold control over the outcomes of the subordinates.

**Power as Influence.** Influence towards others is also treated as an important feature of power, but as was mentioned above, influence is not the core feature in the definition of power (Fiske, 1993). Scholars who hold this view think that power equals a strategy to influence others (e.g., Kipnis, Schmidt, & Wilkinson, 1980). For instance, Lewin (1941) proposed that power denotes the ability to induce force, while Simon (1957), and French and Raven (1959) defined power as the ability to influence others. In this principle, it is not necessary for power holders to take real actions to give orders to other powerless people, as social power reflects outcome control (Depret & Fiske, 1993); only when they hold the ability to modify others' behaviours are they considered as possessing power.

However, defining power as influence might lack a deeper explanation about where this influence ability originates from (Fiske & Berdahl, 2007). In our study, some participants also highlighted influence in their essays on power

manipulation, but these influences are still from their control over more resources compared to those powerless individual(s). Also, power holders may own power without influence if the subordinates refuse to be influenced by them, but they still control the outcomes of the subordinates. Therefore, we treat influences as an important content and sign of power, but influence is not the determinant factor that defines power.

      **Power from Consent.** This perspective understands social power from its origins: the consent from subordinates (Overbeck, 2010; see also Hindess, 1996). Subordinate consent grants power holders the authority and legitimacy to exercise power. Legitimacy reflects whether the current state of power is morally right (Zeldithch, 2001). The legitimate right to possess power can be "granted by God or other divinity; by successful exercise of force; by tradition; or by the blessing of some institution, be it the State, the Church, or the corporation" (Overbeck, 2010, p. 24). However, power needs agreement and supports of subordinates. Without consent, the authority of power holders disappears (Locke, 1969, 1988). Power holders and subordinates should follow the requirements of their roles. If power holders refuse or fail to fulfil their role expectations, subordinates would also withdraw their consent and lead to social power relation nullified (Hamilton & Biggart, 1985).

      Regarding the origin of power, most types of authority are based on the consent of subordinates, but not all types of power follow this rule. For instance, legitimate power is granted by formal institute. Although some subordinates may not support legitimate power holders, the power will occur if this institute still exists.

Therefore, power based on consent is also not the core feature of power. Nevertheless, some participants mentioned this as the content in their high/low-power experiences; for example, one participant described the process in which her friends agreed that she would be the group leader to decide their travel plans. We also treated this view as an important factor when understanding power.

   **Power Based on Identity.** Other psychologists propose that power is based on one's identity with the group. Self-categorisation theory argued that shared group identity increases social influence and creates power (Turner, 2005). Individuals get together to form the group, and, with the process of coordination and unifying self-interests, the group is not the simple aggregation of every individuals' self-interests; it becomes a unit in which its members share the same interests and identity. Independent individuals become members of such groups, and their shared self-interest becomes the interests and goals of the group. Members cooperate and contribute to achieve the group goal. This process creates an influence that allows the group to act upon the world and change others. As a member of the group, individuals also gain social power. Social dominance theory holds that power is from individual's characteristics of social dominance (Sidanius & Pratto, 1999). The more individuals prefer social dominance, the more they endorse the inequalities and privilege as a function of group-based differences in social power. Social hierarchy provides people with certainty and security. Individuals in different positions of the social hierarchy are able to endorse this form of social organisation; they gain security by confirming their positions, even

for those of lower status (Brauer & Bourhis, 2006). Some participants also mentioned power-related experiences from this perspective. For instance, as one participant was in a large group or organisation with influence or control over resources, they held power over other persons. Some other cases showed that one endorsing high dominance will eventually become the leader of a group.

As with power from consent, power based on identity also discusses the origin of power, and this feature is not the core factor of power. This view provides an assumption about how power is formed, but not all power holders show high social dominance personality. For instance, some emperors who earnt their power from a hereditary system may not hold any high social dominance.

**Personal Sense of Power.** In this approach, power is not studied as a socio-structural variable: it is regarded as a psychological state. Psychologists in this approach defined power as a perception of one's ability to influence others (Anderson, John, Keltner, & Kring, 2001; Bugental et al., 1989; Galinsky et al., 2003). Sense of power is primarily dependant on individuals' inner state, but it must not relate to socio-structural indicators (e.g., control over the resources, authority or status) (Anderson, Srivastava, Beer, Spataro, & Chatman, 2006; Fast & Chen, 2009). This inner sense of power can, per se, shape the influence over others beyond the socio-structural positions. Individuals with higher sense of power tend to behave more positively and use more effective tactics that facilitate an increase in their actual power relative to those with a low sense of power (Bandura, 1999). For instance, teachers who perceive themselves as powerless tend to lose control

and exhibit a more ineffective speech style (e.g., more speech disruptions) when they face unresponsive children, while those who perceive themselves as powerful are more likely to use more effective and positive strategies in speech, and are less disrupted by different targets (Bugental & Lewis, 1999).

**Summary.** The definitions mentioned above all reflect the characters, origins or function of power. In our research, we mainly study power as control, adopting the definition of power as an individual's relative capacity to control over resources and others' outcomes. Power holders can modify others' states by providing or withholding resources, or by administering punishments (Fiske, 1993; Galinsky et al., 2003; Keltner et al., 2003). However, because power is a complex item referring to a variety of phenomena, we will treat all of these factors as contents and an index of power in our research.

## Differentiating Power from Other Concepts

It is necessary to differentiate power from several concepts. Power and these concepts sometimes overlap with each other in practice, but they are different notions.

**High Social Status.** Social status and power are related but different constructs. Status represents the attributes that differ in liking, respect and prominence, and determines the allocation of resources within groups (Fiske & Berdahl, 2007; Keltner et al., 2003). Also, social status describes the relative stable social position in the social hierarchy and sometimes refers to economic factors (e.g.,

wealth and consumption) (Anderson et al., 2001; Fershtman & Weiss, 1993). There are four factors used as the index of the social status: education, occupation, sex and marital status (Hollingshead, 1975).On occasion, high social status overlaps power, but this is not always so. People with lower social status can also hold power in some situations (e.g., a student as a leader in high school society), while people without power can have a high social status (e.g., European aristocrats).

**Leadership.** Leadership is defined as an influence process, by which the leader persuades other group members to achieve organisational goal (Chemers, 2001). The role of leader was developed gradually in history as a result of the need for control. In a group, other members can attribute the consequences of their group and organisational performance to the leaders; they also maintain control of the environment in this way (Meindl & Ehrlich, 1987). Leadership is regarded as the key factor in the success or failure of a group, organisation or institute. For instance, the leadership of a school principal is the most important determinant of whether said school has a good atmosphere and whether the students are achieving in line with expectations (Allen, 1981; see also Bass & Stogdill, 1990).

Power and leadership sometimes overlap with one another. However, depending on effective and failed outcomes, leadership can be treated as good/successful or bad/unsuccessful. In contrast, power is not judged according to the results and it is not necessary for power to lead to results. Once a relationship between control and being controlled is established, power exists.

**Locus of control.** Locus of control is another concept related to but different

from power (Rotter, 1966). Internal-external locus of control represents whether one individual believes they are able to control their fate by themselves. Power is mainly about controlling or influencing others, while locus of control is about controlling the things that happen to the self. Power must exist in the relation to the other(s), while locus of control deals with the relation between one and one's own life.

**Authority.** Authority refers to control over the right to make decisions and the resources in a group or organisation (Weber, 1968). The boss, leader and manager who own the formal authority over a decision, resources or an activity can always reverse their subordinate's decision, although they can refrain from doing so on occasion. Weber (1968) noted that the legal and rational authority exist in a formal and stable structure or hierarchy; the bureaucracy grants the authority of leaders. Compared with power, authority is more closely related to the formal organisation.

## 1.1.2 Methods and Measures in Power Research

Having discussed the definition of power, this section will discuss how power will be manipulated and measured in the current research, mainly based on the definition of power-as-control. In recent decades, power has not only been regarded as actual control, but also as a psychological state. To measure or manipulate this variable, social cognitive researchers developed various paradigms and methods, including experimental, quasi-experimental and correlational methodology. These methods mainly focus on measuring the level of control over resources and

influencing others (e.g., Anderson, John, & Keltner, 2012), or assigning individuals

to positions that provide control over resources and others' outcomes (e.g., Anderson

& Berdahl, 2002; Kipnis, 1972). Among these methods, our research adopts mind-set

priming and role-play tasks as its primary paradigms.


**Manipulation of Power**

Mind-set priming and role-play tasks are common paradigms to manipulate

power. These methods can effectively activate sense of power in laboratory

conditions, so that the experimenters can study the later effects of power on moral

judgments. The following sections will introduce these approaches towards

manipulating power.

**Mind-set Priming Method.** Mind-set priming was based on the automatic

activation model proposed by Bargh (1990), in which an individual's goal-directed

thoughts and behaviours can be unintentionally activated by contextual events and

nonconscious automatic goal activation. Thus, a goal-directed mental state (e.g.,

power) can be activated automatically by related environmental cues. A

pronunciation task, word-fragment completion task or word-search task are all

examples.

Pronunciation tasks include authoritative power (e.g., authority, executive)

and physical power (e.g., strong) words as targets of the task to prime power. In

word-fragment completion tasks, participants choose 16 items in which six items are

related to power (e.g., AUT_ _ R _ T _, EXE _ _ _ _VE) (Bargh, Raymond, Pryor, &

Strack, 1995). Similarly, word-search tasks (e.g., Chen et al., 2001) use words directly related or unrelated to power, and participants are asked to search for these words. However, in recent years, these tasks to manipulate power have received a multitude of criticisms about their validity; consequently, they are not often used. The mind-set priming task is used more frequently when instructing participants to recall past events.

Galinsky et al. (2003) developed a stronger mind-set priming method to activate power (Anderson & Galinsky, 2006, p. 515): they asked participants to recall a situation in which they had power over another individual or individuals. Participants were informed that power meant a situation in which they possessed the ability to control over other(s) to get something they wanted, or in a position to evaluate other(s). Participants were asked to describe what happened and how they felt. In this manipulation paradigm, they studied the relationship between power and action tendencies. Many later studies also adopted this methodology (e.g., Galinsky, Magee, Inesi, & Gruenfeld, 2006; Hogeveen, Inzlicht, & Obhi, 2014; Smith & Trope, 2006) and itis also used in the present research.

**Role Task.** Manipulating the roles that control others' resources and outcomes to prime power have been utilised since Kipnis' studies (1972, 1976). The manipulation places participants in two structural positions in a hierarchical structure (e.g., a manager or a subordinate) (see Galinsky et al., 2003; Guinote, Judd, & Brauer, 2002). In Galinsky et al.'s (2003) study, participants first completed a leadership questionnaire, before being told that they would complete a coordination

task to build a Lego model. The task needed one person to be the manager and the other(s) to be the subordinates. The experimenter told participants that their roles were decided by their leadership questionnaire results. In fact, the roles were randomly assigned before participants arrived. Then, the experimenter announced the roles and gave participants in the managerial position a description of their role and a bag of Lego. The 'managers' were told that they would be in charge of directing the building, and that they were going to control the work process, evaluate and reward the subordinates throughout the task. Their evaluation would determine how the bonus money would be divided. In contrast, participants assigned to subordinate roles would be told that they would not have control over the work and the evaluation processes. After assigning participants to the role of manager or subordinate, but before starting the Lego building task, participants took part in the real experimental task, described as a pre-test for a future study. After the real task, participants were told that they would not do the Lego building task as the time had run out.

This type of paradigm has been adapted in various ways. These different versions usually change the task, or the roles of high- and low-power positions. For example, Fiske and Depret (1996) asked participants to make decisions about internship applicants. Powerful participants were told that they would have a 30% effect upon the final decisions, and powerless participants were told that they would not impact the final decisions. In Overbeck and Park's (2001) study, participants were assigned to play a high-power role of a 'professor' or a low-power role as a

'student', and believed that they were interacting with another participant via a closed-circuit e-mail system. Participants spent more than an hour writing and reading emails assigned to the opposite role. In another study by Guinote et al. (2008), participants were told that they would take part in a task focused on creativity; they were assigned as either judges or workers by filling in a questionnaire that allegedly assessed their creative style. The workers were asked to call for solutions to solve problems, and the judges evaluated the workers' solutions.

An adapted version of a role task is the role-stimulation task. In this task, participants are invited to imagine they are in the role of a power holder or powerlessness individual. For example, Study 4 in Guinote et al. (2008) assigned participants to a powerful or powerless condition. In the powerful condition, participants were asked to imagine that they were a managing director in a marketing organisation and to describe a typical workday. Those in the powerless condition were asked to imagine that they were an employee in a marketing organisation and to describe a typical workday.

The current research uses several different tasks in role-play paradigm to improve the robustness of the effect. In line with Overbeck and Park's (2001) study, participants were instructed to act either 'manager' or 'employee' in a work context in one study, and to act as "principal" and "student" in a school context in another study. Also, Guinote et al.'s (2008) role-simulation task and Fiske and Depret's (1996) decision-making task will be used in research.

These various methods are able to manipulate power and have similar effects

(Guinote, 2017). Manipulation of power induces a sense of power in experiments and imitates the condition in reality. Using various methods to study the same issue is helpful to increase the reliability of the study. We also adopted the different tasks of mind-set priming and role-play paradigm in the present research.

**Measuring Sense of Power.** Anderson et al. (2012) developed a scale to assess the sense of power. Previous researchers mainly focused on how to induce a sense of power by experimental design, then studied how this induced power affected individuals' behaviours and cognition (e.g., Galinsky et al., 2003; Guinote et al., 2002). However, no appropriate method could directly and systematically measure the personal sense of power that individuals hold across different relationship contexts.

Anderson et al. (2012) considered a sense of power in a psychological state, subject to perceptions of one's ability to influence others (Bugental et al., 1989; Galinsky et al., 2003). The scale had eight items and considered four domains of power: beliefs about their ability to make decisions in the relationship (e.g., "If I want to, I get to make the decisions"), influencing other person's behaviour (e.g., "I can get him/her to do what I want"), opinions/beliefs (e.g., Even if I voice them, my views have little sway"; reverse-coded) and satisfying their desires and wishes in the relationship (e.g., "Even when I try, I am not able to get my way", reverse-coded) (p. 320). They also studied the sense of power at four levels: in the momentary social setting (e.g., a single interaction with another person), in long-term dyadic relationships (e.g., with a friend), in a long-term group (e.g., in a family), and in a

generalised form across individual relationships and group memberships. They found that sense of power is coherent within social contexts. An implicit need for power was also regarded as another way to measure sense of power (Schultheiss et al., 2005).

There are also many studies that have used this approach to study how power relates to other variables. For example, in Anderson and Galinsky's (2006) study, researchers asked participants to report their belief about their sense of power in their relationship with others, and then they assessed participants' optimistic perceptions about future events and risk perceptions. The results showed that there was a positive relationship between power and optimistic traits.

A study measuring personal sense of power needs a large sample size. Constrained by a limited budget, the current study will not directly measure personal a sense of power; it will study how it affects moral judgments. However, we still adopt some questions from Anderson et al.'s (2012) scale as the power manipulation check questions.

In summary, these approaches to study power are all effective ways to study power (Guinote, 2017). The measurement of power targets personal sense of power in natural conditions, and manipulations of power have been used in previous experiments to study the causality relationship between power and cognition, or behaviours. Using various methods to study the same issue is helpful to increase the reliability of the study.

### 1.1.3 Theories of Power

Having discussed what power is and how to manipulate power through experiment design, we now turn our attention to the theories of the purpose and exercise of power that explain how power affects cognition and behaviours. This research is interested in how and why power affects moral judgments. We believe that the influence of power on moral judgments should follow the general rules of how power affects cognition and behaviours. Therefore, we firstly discuss classical theories in power research to build up our research rationale. This section summarises three classical theories: power as-control theory, power, approach and inhibition theory, and the situated focus theory of power.

### The Power-as-Control Theory

Fiske (1993) proposed the power-as-control theory to primarily explain how power influences the reliance on stereotyping based on control motivation; she mentioned that power and stereotyping are mutually reinforcing. Stereotypes exert control and assist with the gaining of power to maintain and justify the current authority.

Stereotyping is a category-based cognitive response to other individual(s). It describes and attributes individuals' beliefs, cognition and behaviours based on group membership, rather than based on individuated consideration (Fiske & Neuberg, 2015). There are two aspects of stereotyped exert control: descriptive beliefs and prescriptive beliefs (Fiske, 1993; Terborg, 1977). People who hold

descriptive stereotypes consider how most people in a specific group supposedly think and behave; for example, women are not good at sciences and Africans are good at sports. This constrains individuals to stay in the bounds of these stereotypes and limits their development. Meanwhile, prescriptive stereotypes control persons more explicitly. People holding this type of stereotype will think what an individual in a certain group should think, feel and behave. Prescriptive stereotypes demand that individuals conform or disappoint the holders of the stereotype. Individuals who break someone else's prescriptive stereotypes can bring about penalties; for example, a male adolescent who fails to show masculine characteristics may be bullied by his peers.

Power holders have a natural motivation to maintain their current authority, while powerless individuals tend to restore control. Therefore, power holders are more inclined to perceive powerless individuals in a stereotype-consistent manner. Stereotyping can limit freedom and constrain the outcomes of powerless individuals, which helps power holders to maintain their control and authority (Fiske, 1993).

Fiske (1993) held the view that the powerful have control over the resources and outcomes of the powerless, so the powerless tend to put their efforts into collecting information about the powerful to predict and control the things that may happen to them. In contrast, owing to not being controlled by others (when compared with powerless individuals), powerful people do not need to spend time and effort on paying attention to the needs of the powerless. Besides, power holders usually interact with many powerless individuals and, due to limited attention resources, it is

difficult for them to fully perceive the information of powerless individuals. Thus, they tend to use categories to perceive others; that is, stereotypes.

In subsequent developments, Fiske and her colleagues argued that power does not always lead to reliance on stereotypes. Specifically, there are usually two types of processes triggered by power that affect social perception. When perceiving powerless individuals, the powerful usually ignore information opposing stereotypes; this is an automatic and the default process. However, power holders are also capable of effortful social attention. This usually happens when the powerful feel the duty and responsibility to perceive others systematically (Goodwin, Gubin, Fiske, & Yzerbyt, 2000).

According to power-as-control theory, power holders naturally hold a motivation to maintain their control and authority, while powerless individuals tend to restore control. Meanwhile, building up and maintaining rules, laws and norms are primary means of power holders seeking to stabilise power relations (Sidanius et al., 2004; Sidanius et al., 2003); to help advance collective goals and to control subordinates (Habermas, 1975). Thus, power holders hold a natural tendency to maintain their authority, and they maintain the authority by reinforcing the current rules and social orders. Thus, power holders are more inclined to make rule-based (deontological) judgments in dilemmas; we will test this assumption in Study 9.

**The Approach/Inhibition Theory of Power**

Power-as-control theory is primarily concerned with control motivation, and

proposed that power holders prefer to rely on stereotyping and automatic effortless

cognition. Later, the approach/inhibition theory of power extended this view and

further summarised power's consequences based on the approach and inhibition

system (Keltner et al., 2003). This theory highlighted that most consequences lead by

power could be considered in the structure of Gray's (1991) theory about the neural

substrates of approach and inhibition (Newman, 1997), and Higgins's (1997) theory

of promotion and prevention self-regulatory focus. Possession of power activates the

behavioural activation system (Keltner et al., 2003), a system associated with the

processing of rewards and the pursuit of one's aims and desires (Carver & Scheier,

2001). The approach motivation is associated with power holders' aims and desires.

Evidence for the power and approach/inhibition model were considered from four

aspects: affects, attention to rewards and punishment, social cognition and

behaviours. According to their theory, high power is linked with positive emotions,

approach to awards, automatic social cognition and approaching behaviours, while

low power is usually linked to negative emotions, avoiding threats, controlled social

cognition and inhibited behaviour.

This theory further supported the link between power and automatic

cognition. As moral judgment is one type of cognition, we think that the link

between power and cognition in this system will contribute to the explanation of why

power leads to a preference for deontology. Experiments will be used to test this

assumption in Chapter 3. We expect that the reliance on automatic cognition will

guide power holders to make more deontological moral judgments and that the

preferences for controlled cognition of powerless individuals will lead to more utilitarian options.

**The Situated Focus Theory of Power**

Besides cognitive style, the approach and inhibition theory of power also mentioned the reward-seeking tendencies of power holders. More recently, the reward-seeking component of approach motivation has been questioned and replaced by a goal orientation perspective on power (Guinote, 2017). Accordingly, power energises individuals, thus increasing wanting, and working to obtain their desires and aims. This theory proposed that goal focus is the primary motivation of power holders, and that it guides their all cognitive activities and behaviours.

Social power increases goal orientation and leads to a series of goal-directed behaviours. Compared with people lacking power, individuals possessing power show more long- and short-term actions in service of their goals (Anderson, Keltner, & John, 2003; Cast, 2003; Chen et al., 2001; Galinsky et al., 2003). Guinote (2007c) found that powerful individuals were quicker to act to approach their goals, showed more persistence and flexibility during pursuing goals, and were more likely to seek opportunities for goal pursuit.

Power does not only activate goal-directed behaviours; it also affects a series of cognitive processes related to goals, including attention, memory and reasoning (Guinote, 2007a, 2010, 2017). Increasing power affects goal-directed processes from top to bottom. That is, relative to powerless individuals, powerful individuals are

more inclined to distribute their attention and cognitive resources to information related to goals, needs and the terms they are related to. Individuals with high power are more inclined to focus their attention on main tasks and are less distracted by other unrelated information, as it is easy for them to distinguish whether the information is related to their goals (i.e., is goal relevant or irrelevant). In contrast, powerless individuals make a less clear distinction between different types of information, thus they distribute their cognitive and attentional resources more evenly (Guinote & Vescio, 2010).

In Guinote's (2007b) study, different cognitive tasks were used to prove that powerful individuals have a better ability to inhibit goal-irrelevant information. Study 1 utilised the framed-line test (Kitayama, Duffy, Kawamura, & Larsen, 2003). Participants were presented with a square frame with a vertical line, and were subsequently instructed to draw a vertical line in a blank square frame of the same or a different size to the original frame. In the absolute task, they were asked to draw a line with the same absolute length as the original line and in the relative task they need to draw a line whose proportion to the size of the second frame was the same as the proportion of the first line to the size of the first frame. The contextual information in the absolute task hindered drawing the line, while the contextual information facilitated the relative task. To perform better in the task, participants needed to inhibit the peripheral information in the absolute task. The findings showed that, compared with powerful individuals, powerless individuals had more difficulty in avoiding the influence of the background information (frame); they also

tended to make more mistakes.

In Study 2, participants were asked to see different directions of cups on the screen. They also needed to indicate whether the objects were upright or inverted as quickly and as accurately as possible. Concurrently, the experimenter manipulated the direction of the cup handle (left or right), as the opposite direction of the cup handle with the handedness inhibited the responses. It was found that powerful individuals were not affected by the direction of the cup handle, while powerless individuals respond quicker when the direction of the cup handle was consistent with their handedness.

Smith and her colleagues used a Stroop task to assess the capacity to inhibit task irrelevant information among powerful and powerless individuals. This task asked participants to stick on the goal to name the colour of the word and ignore the meaning of the word. For example, if the stimulus word is 'blue' with red colour, participants need to name the colour 'red' and inhibit the meaning 'blue'. They found that individuals in high-power conditions were better at controlling dominant responses than those in low-power conditions (Smith, Jostmann, Galinsky, & van Dijk, 2008).

These results indicate that powerful individuals are more inclined to focus their cognitive resources on goal-related information and tasks; they showed higher ability to avoid the distraction of unrelated information and contextual information.

Upon summarising a series of empirical studies, the situated focus theory of power considers power from a situated perspective of cognition and behaviours

(Guinote, 2007a, b, c, 2010, 2017). Guinote proposed that power increases focus of attention, reasoning and behaviours in line with the demands of the situation through two features of cognitive processing: process flexibility and attention selectivity. High-power individuals own the ability to select primary factors in the current context (e.g., motivation, needs, goals, expectancies, accessible construct etc.). They use their cognitive resources to process more information relevant to the primary factors in the context, and inhibit the irrelevant and peripheral information. In contrast, powerless individuals pay attention to and process information from various origins evenly. Meanwhile, powerful individuals own the capacity to distribute their cognitive resources flexibly, as well as change their focus across different contexts. They can selectively engage more or less in selective information processing according to the demands of the task, and change their focus according to different active goals (Guinote, Brown, & Fiske, 2006). In contrast, powerless individuals focus more on additional details; their processing is less specific to the current condition.

Furthermore, processing focus increases power holders' response speed (Galinsky et al., 2003; Guinote, 2007b, c), which leads to their goal-directed behaviours (Guinote, 2007c) and variability across contexts (e.g., Fiske & Depret, 1996; Overbeck & Park, 2001). The proposition that power increases goal-consistent behaviour can be treated as a special case of the situated focus theory of power (Guinote, 2007b, c).

The situated focus theory of power provides a good perspective to understand

the series of cognitive activities and behaviours of power holders. According to the situated focus theory of power (Guinote, 2007c, 2010), power increases flexibility and shifts in attention and behaviours in line with salient goals, states of the person or opportunities in the environment. Consequently, power holders may not always rely on automatic cognition under different goal activations. Therefore, we argue that goal focus also acts as an important role in power holders' moral judgments, alongside automatic cognition. Power holders more strongly endorse goal-consistent moral reasoning compared to powerless individuals. We will discuss the goal focus of the powerful in the next section and shall investigate this view using empirical studies in Chapter 4.

**Summary.** Three theories of power provide different perspectives to understand how power influences cognitions. Power-as-control theory discusses the control motivation that affects a series of cognitive activities and behaviours of both powerful and powerless individuals. Power, approach and inhibition theory summarises the general approach (vs. inhibited) tendencies of power holders (vs. powerless individuals) in cognition, behaviours and affects. However, these two theories ignore an important tendency of power holders: goal focus. Power directs cognitive resources for responses and prioritisation following their active goals, self-disposition and situational demanding. This tendency can change power holders' default motivation to maintain the current order/control, or it can guide them to rely upon controlled cognition and take inhibited behaviours according to the current

goals.

Three theories show the effects of power from different perspectives. To investigate how and why power affects moral judgments, the current research will take these theories into consideration.

### 1.1.4 Consequences of Power

The previous section systematically summarised the theories of power and briefly introduced our study rationale based on these theories. This section will discuss the influences of power on automatic cognition, goal focus and the motivation to maintain authority more extensively to provide support for the present research.

### Power and Cognitive Processing Style

A large body of research found that power increases the use of intuitive, effortless and automatic cognition, and lacking power leads to the reliance of deliberative, effortful and controlled cognition. We expect that this tendency will also be seen in moral judgments.

It has been argued that there are two fundamental systems in the cognitive processing of information: automatic cognition and controlled cognition (Kahneman, 2011; Rand, Tomlin, Bear, Ludvig, & Cohen, 2017). Automatic social cognition is relatively rapid and effortless, and is usually linked with the use of cognitive heuristics and simple rules. Controlled social cognition is deliberate and effortful,

and involves the consideration of multiple response options and stimulus characteristics.

Generally, power leads to approaching tendencies. The behavioural activation system (BAS) and behavioural inhibition system (BIS) are two neurological systems that represent the sensitivity of individuals' responses to environmental simulations; they regulate appetitive motivation and aversive motivation respectively (Carver, & White, 1994). BAS is mainly associated with the processing of rewards and the pursuit of one's aims and desires, while BIS is a system associated with the perception of threats and punishments (Carver & Scheier, 2001; Keltner et al., 2003). Automatic cognition is one part of BAS, while controlled cognition belongs to BIS. Power is found to relate to BAS/BIS scores. Participants primed with high power produced significantly higher BAS scores than those in the low power and control groups, while the three groups showed no significant differences on BIS scores (Smith & Bargh, 2008).

Powerful individuals often engage in fast and simplified judgments, construing their judgments on the basis of momentary subjective experiences (Briñol, Petty, & Stavraki, 2012; Weick & Guinote, 2008). Elevated power increases the use of automatic cognitive processing, as high-power individuals are more confident (Briñol, Petty, Valle, Rucker, & Becerra, 2007; See, Morrison, Rothman, & Soll, 2011) and trust the information that comes easily to mind. In contrast, reduced power increases reliance on controlled social cognition, because the powerless are vigilant to better predict the future and control outcomes (Fiske, 1993; see also Guinote,

2007a, 2017).

The fast and simplified judgments of power holders are shown in a variety of cognitive activities. Power increases the reliance upon quick and effortless methods to perceive others; for example, momentary experiences and first impressions. Power holders usually construe judgments based on momentary subjective experiences, yet do not use core attitudes or prior knowledge (Weick & Guinote, 2008). Goodwin and Fiske (1993) recruited undergraduates as decision makers to evaluate high school students' job applications in a constructed decision-making situation. The findings showed that participants with high power decreased their attention to the applicants compared with those with low power (as cited in Fiske, 1993, p. 625). Powerful individuals also relied upon first impression thoughts to judge the candidates (Briñol et al., 2012).

Stereotyping is a typical example of power holders' reliance on automatic cognition, as it helps to save cognition resources (Blair & Banaji, 1996; Devine, 1989). Power holders tend to use stereotypes as the primary method for perceiving and judging others. Powerful individuals pay more attention to information consistent with stereotypes, and usually form their impressions about others based on stereotypes instead of individual traits (Goodwin, Gubin, Fiske, & Yzerbyt, 2000); Smith and Trope (2006) found the similar effects. Powerful individuals tend to use perceived targets' primary traits to make judgments, while powerless individuals judge others primarily according to their concrete behaviours. After knowing perceived targets' social groups, power holders obtain their conclusions about targets

according to group stereotypes and personal traits.

Using automatic cognition also affects other social judgments of power holders. On occasion, power can decrease the accuracy of social judgments. Keltner and Robinson (1997) tested how 'traditionalist' and 'revisionist' English professors estimated attitudes and book preferences differences of themselves and their opponents. Here, traditionalists represented professors who supported preserving the prominence of the traditional canon in the curriculum, while revisionists represented those professors who proposed teaching more works by female and minority authors, thus challenging the tradition. The results showed that traditionalists who took up more social resources in the real society were more likely to polarise the differences and inaccurately judge opponents. Some indirect evidence also indicates that power holders are more likely to make more imprecise evaluations towards subordinates. Kipnis (1972) found that powerful individuals tend to devalue the worth of powerless individuals' performance. Another study suggested that power holders tend to overrate themselves and devalue subordinates when they use incongruent influencing tactics with their power base towards the group (Klocke, 2009). Power can directly decrease the accuracy of judgments, since they are less likely to take others' advice and tend to rely more on their own initial thoughts to make decisions when compared with those without power (See et al., 2011).

Power holders' preference for automatic cognitive processing also occurs across groups, for instance race (Whites vs. Blacks) and gender (Sidanius, 1993; Pratto, 1996). Power also exists across different groups. Groups with higher status

have the ability to influence groups with lower status through rewards and punishments (Keltner et al., 2003). A preference for automatic processing also exists in dominant groups when members of this group perceive those in lower power groups, as with powerful individuals to powerless individuals. Specifically, compared to the group with less power, groups with the dominant status typically relied more upon stereotypes and prejudice. Guinote et al. (2006) explored the links between group size – a determinant of group level of influence and control – and group members' social perceptions. Members of a minority group prefer using interpretative reasoning relative to those of majority groups. Minority members perceived less control over their outcomes, relied less on factual information and made more dispositional attributions about social targets when compared with their counterpart in majority groups.

In support of the relationship between elevated power and automatic cognition, researchers proposed that low-power group members pay more attention to the differences of both in- and out-group members, while high-power group members are only able to recognise the differentiating aspects of in-group members (Park, Ryan, & Judd, 1992). The reason for this is that powerful individuals only focus on features consistent with category membership, while low-power perceivers pay attention to differentiating features (Ostrom, Carpenter, Sedikides, & Li, 1993).

**When the Powerful do not Process Automatically.** Despite the evidence above, there were also conflicting evidences regarding the association between power and deliberative cognitive processing (e.g., Chen, Ybarra, & Kiefer, 2004;

Overbeck & Park, 2001). For instance, when undertaking the Navon task (reading the global letter composed of small letters; see Navon 1977), if instructed to read the global letter composed of small letters (Navon, 1977), the powerful performed better with less interference from the small letters (Guinote, 2007b); the similar effect exists in the visual rotation task. Powerful women performed better in visual rotation tasks compared with powerless women, as power made them less interfered by unrelated information (Nissan, Shapira, & Liberman, 2015). High-power individuals are also motivated to process additional target information when they lose control over the environments (Chen et al., 2004).

The powerful can be more attuned to the situation, and they process information more deliberatively and systematically than those without power, so long as the information at hand is relevant to the needs, goals or the context. That is, although powerful individuals rarely adopt deliberative and controlled thinking, they process the information deliberatively when they feel the responsibilities or demands from their roles, contexts or tasks (Overbeck, & Park, 2001). This is consistent with the view of the situated focus theory of power (Guinote, 2007a; Guinote & Vescio, 2010).

**Summary.** Power can increase automatic processing in various cognitive activities, including attention, stereotyping, prejudice and judgment (Guinote et al., 2010; Goodwin & Fiske, 1993; Goodwin et al., 2000; Klocke, 2009; See et al., 2011). To explain this association, Fiske (1993) proposed that a desire for control is the reason for power holders' preference for stereotyping, while Keltner et al. (2003)

hold the view that automatic cognitive processing is one aspect of a power holder's approaching tendency. However, other evidence suggested that powerful individuals are goal orientated; they own the ability to flexibly use their cognitive resources and place their focus on the information that is relevant to their needs, goals, experiences and expectancies (Guinote, 2007a, b, c, 2010; Overbeck & Park, 2006).

We believe that this evidence supports the link between power and automatic cognition, and that this link will contribute to explaining why power increases rely upon deontological moral thinking. Chapter 3 will use experiments to test this argument. We will explore if the preferences for automatic cognition of the powerful can be generalised to moral reasoning, and if power holders are more inclined to rely more upon moral intuition to make judgments. Meanwhile, the conflicting evidences remind us that automatic cognition is not the only contributing factor in explaining how and why power affects moral judgments, as the goal-focus tendency of power holders should also be taken into consideration. The related evidence will be discussed extensively in the next section.

**Power and Goal Focus**

As mentioned in the section concerned with the situated focus theory of power (Guinote, 2007c, 2010), power increases flexibility, as well as shifts in attention and behaviour in line with salient goals, states of the person or opportunities in the environment.

Power facilitates individuals to focus attentional resources on the tasks

related to their motivations and active goals. Goals trigger selective attention in line with goal-relevant information (DeWall et al., 2011; Guinote, 2007b; Overbeck & Park, 2006; Schmid, Kleiman, & Amodio, 2015; Vescio, Snyder, & Butz, 2003; Whitson et al., 2013) and affect the weight that people give to different options (Deci & Ryan, 2000; Goldratt & Cox, 2016). In contrast, people who lack power divert their attentional resources between goal relevant and irrelevant information, and place more weight upon different types of information (Guinote, 2007c, Overbeck & Park, 2006; Smith & Trope, 2006).

Power holders also show higher flexibility during goal pursuits. For instance, Overbeck and Park (2006) found that powerful people tended to distribute their social attention to fulfil organisational goals. Specifically, they set task priorities and used information in line with different active organisational goals. Guinote (2008) also found that powerful participants tended to direct their focus and attention resources to current situational demands. Participants' attention and behaviours were examined in different situations, including intentions for weekdays and weekends, imagining social and work situations, planning winter and summer days, and in the presence of situational-relevant and irrelevant information. In all situations, powerful individuals took on more behaviours consistent with their current situations, and less inconsistent behaviours relative to powerless individuals. The powerful performed better in cognitive tasks, such as visual rotation tasks (Nissan et al., 2015) and when reading the global letter composed of small letters (see Navon, 1977), with less interference from unrelated information (Guinote, 2007b).

This perspective can also reconcile the preference for automatic cognition of powerful individuals in the last section. Powerful individuals are able to direct their cognitive resources in the pursuit of their focal goal and can ignore other irrelevant information (Guinote, 2007a). As usual, information concerned with powerless individuals and contextual information are found to be irrelevant with the focal goals of power holders, so the powerful are more likely to process them automatically and effortlessly. It is only when power holders feel the demand from the contexts that they use their controlled cognition to process the information deliberatively.

Goal focus guides the behaviours of power holders. The advantages of power show in nearly all stages of goal pursuit activity: from setting goals to initial goal pursuit actions, as well as persistence until final completion (Guinote, 2017). Increasing the goal orientation of power holders facilitates their effectiveness and performance in various tasks (DeWall et al., 2011; Guinote et al., 2012; Lammers, Dubois, Rucker, & Galinsky, 2013; Harada, Bridge, & Chiao, 2013; Schmid & Schmid Mast, 2013; Van Loo & Rydell, 2013; Weick & Guinote, 2008). Power holders perform better than the powerless in a series of goal-related activities, including making decisions regarding the courses of action, acting in the pursuit of goals and persisting in difficulties (Guinote, 2007c). Powerful individuals also showed higher abilities to overcome the difficulties faced during goal pursuit. For instance, participants with power were less depleted in the demanding task compared to others (DeWall et al., 2011). Powerful individuals also generated and tried more solutions when they faced difficulties to pursue their goals (Guinote, 2007c).

The association between power and goal focus has been observed in relation to a variety of goals; of particular importance are goals associated with power roles. Research conducted across different countries found that fulfilling the mission of the organisation, such as growth and continuity of business, are ranked among the top daily goals of people in managerial positions (Hofstede, Van Deusen, Mueller, & Charles, 2002; Willis & Guinote, 2011; Yukl, Gordon, & Taber, 2002).

Regarding ethical issues, powerful individuals are also goal orientated: they behaved in a more prosocial manner than others in prosocial tasks and behaved selfishly in the task highlighting personal gain (Galinsky et al., 2003). Personal values (e.g., Brown & Treviño, 2006; Carroll, 1991; Treviño, Hartman, & Brown, 2000), organisational priorities and culture can all affect the ethical choices of power holders (Becker & Fritsche, 1987; Jackson, 2001; Kopelman, 2009; Ralston, Gustafson, Cheung, & Terpstra, 1993). For instance, managers in companies with a culture characterised by individualism believe that ethical norms are absolute and applied universally, while those in a collectivist culture think that ethical behaviour depends on the situation (Ralston et al., 1993; Smith & Hume, 2005). Deontology and utilitarianism, as two opposite options in one dimension, cannot satisfy the judgments and decisions of power holders; they are more willing to follow the right relational values in their position (Ladkin, 2006).

Power holders show goal orientation in different cognition and behaviours, and we expect that goal focus also guides the moral cognition of the powerful. Chapter 4 will investigate this issue using empirical studies.

**Maintaining Authority.** Cognitive processing style explains how the powerful and the powerless process moral issues, and goal focus shows the motivation/tendency that guides power holders' moral options. Then, further information is needed about the contents of the goal; that is, when no detailed activated goal occurs, what is the default goal of power holders? According to the power-as-control theory in Section 1.1.3, we expected that power leads to a natural tendency/motivation to maintain authority, and this is the default goal of the powerful.

One special and important goal of power holders is maintaining the stability of power structures and authority (Knight & Mehta, 2017; Sapolsky, 2004; Willis, Guinote, & Rodriguez-Bailon, 2010). Authority refers to control over the right to make decisions and the resources in a group or organisation (Weber, 1968). Threats to authority raise power holders' stress levels, which is followed by power assertion (Bugental, 2010), while authority threats decrease stress levels among subordinates (Deng, Zheng, & Guinote, 2018; Willis et al., 2010). Power holders often avoid relinquishing power even when their performance is poor (Ratcliff & Vescio, 2013). This goal is active across different contexts, and is independent of specific tasks and goals that individuals may pursue. By maintaining authority, power holders can more easily access resources (Pratto, Tartar, & Conway-Lanz, 1999) and exercise power more effectively (Guinote, 2017).

To maintain authority, power holders generate and maintain rules, norms and principles, which they use as primary means to stabilise power relations (Lammers &

Stapel, 2009, see also Sidanius, Pratto, van Laar, & Levin, 2004; Sidanius, van Laar, Levin, & Sinclair, 2003) to help advance collective goals and control subordinates (Habermas, 1975).

Meanwhile, power holders, such as bosses, leaders, teachers and managers, usually get formal authority over a decision and resources from their institutions, so enforcing the current social hierarchies and social orders is the main method of power holders seeking to maintain their authority (Cummins, 2000, 2005). High-ranking individuals are typically in roles that enforce the explicit and implicit institutional norms (Boehm, 1992), and they punish those low-ranking individuals who try to violate these norms (Hall, 1964).

Fiske (1993) proposed that power holders maintain their control and status quo by stereotyping. Wills and Guinote (2010) also proposed that power predisposes individuals to pursue some specific goals more than others. There are two basis goals of power holders: attain rewards (Keltner et al., 2003) and maintain hierarchies (Fiske, 1993; Sidanius & Pratto, 1999). The powerful are motivated to support the hierarchical structures that affords them their privileged positions (Sidanius & Pratto, 1999; Sidanius et al., 2004). This motivation to maintain authority further leads power holders to attach more importance to the goals that are consistent with their power and authority. When powerful people focus on attaining authority, they prioritise the goals that are important for themselves, rather than the goals that serve the subordinates (Keltner, Gruenfeld, Galinsky, & Kraus, 2010; Gruenfeld et al., 2008). Thus, we assume that the motivation to maintain authority facilitates power

holders to make moral choices consistent with reinforcing the current rule.

**Summary.** In summary, power increases the use of automatic cognition, goal focus and the motivation to maintain authority. These factors contribute together to explain cognition and behaviours of the powerful, and we expect that these tendencies are also shown in moral judgments. The present study will investigate how power affects moral judgments based on these three psychological processes.

### 1.1.5 Power and Morality

The previous sections have discussed how power affects cognition under control motivation, approach/inhibition system and goal-focus tendency. Now, we shall discuss the primary topic in this project: the relationship between power and morality. As with other cognitive activities, power holders process moral issues and take moral behaviours following the approach tendency and goal-focus tendency.

Kipnis (1972) first made an association with power and corruption. Later, contradictory evidence was found regarding whether power decreases or increases morality. One side holds the view that power leads to corruption and immoral conducts (e.g., Carney et al., 2014; Kipnis, 1972; Lammers et al., 2011), while another side argues that power increases moral and prosocial behaviours (e.g., Galinsky et al., 2003). Lammers, Galinsky, Dubois and Rucker (2015) used two theories to explain the conflicting evidence: disinhibiting tendency and goal focus (self-focus). This section will discuss how power affects morality and moral

judgments in the approach-inhibition system and goal-focus tendency.

**Morality.** As mentioned in Section 1.1.3, power activates the approach system and drives behaviours that satisfy their current needs (Keltner et al., 2003). This tendency relates to parts of immoral actions of power holders. Most people are inhibited when conducting immoral behaviours (Batson & Thompson, 2001; Mazar, Amir, & Ariely, 2008). In contrast, people possessing power do not exhibit this inhibited tendency. For instance, the powerful are more likely to betray their romantic partner and commit adultery (Lammers et al., 2011; Lammers & Maner, 2015). Power holders are also better at telling lies than normal people, because they do not experience the same level of cortisol rush when they tell lies that normal people experience (Carney et al., 2014; see also Lammers et al., 2015).

However, the approach tendency of the powerful also increases the correspondence between current disposition/intention and actual behaviours (Demarree et al., 2012; Guinote & Weick, 2012; Hirsh, Galinsky, & Zhong, 2011). When a situation prompts moral manners, power can increase morality; for example, power holders may give more resources to the collective in the public-goods dilemma (Galinsky et al., 2003). Meanwhile, dispositions and personal inclinations also affect moral behaviours among power holders (Guinote & Weick, 2008). Power only leads to immoral and corruptive behaviours among people with low moral identity, but leads to more moral and altruistic behaviours among people with high moral identity (DeCelles et al., 2012). Similar phenomena exist also concerning socially responsible behaviours (Chen et al., 2001) and sexual harassment (Bargh et

al., 1995). Whether power holders engage in these behaviours depends on their predisposition.

The second aspect that helps to understand the relationship between power and morality is goal focus, especially self-focus. Power increases focus on self and one's own needs and goals (Overbeck, Tiedens, & Brion, 2006). Powerful individuals increase social distance between themselves and others (Lammers, Galinsky, Gordijn, & Otten, 2012); it is hard for them to view from another's perspective (Galinsky, Magee, Inesi, & Gruenfeld, 2006). This tendency makes power holders decrease their focus on morality and makes them focus on satisfying their own needs and pursuing their own goals. They are more likely to object and dehumanise others, as well as to treat others as a means to their own goals (Gruenfeld et al. 2008; Gwinn, Judd, & Park, 2013). Power holders also showed less empathy and compassion towards others' suffering (Van Kleef et al., 2008).

However, when such unethical behaviours are beneficial for others, powerful individuals are not willing to engage in them when compared with powerless individuals (Dubois, Rucker, & Galinsky, 2015). Meanwhile, power holders are also less likely to follow the conformity to engage in immoral behaviours (Galinsky, Magee, Gruenfeld, Whitson, & Liljenquist, 2008).

**Moral Judgments.** Most studies have examined whether power increases or decreases morality; few studies have discussed how power affects moral judgments. However, the approach-inhibition system and goal-focus tendency are also able to explain the moral judgments of power holders.

Self-focus tendency also contributes to explaining the association between power and moral judgments. Deontological decisions usually follow rightness, while utilitarianism aims to maximise benefits and the greatest good. Power holders prefer to rely on the current rules (deontology) to make moral judgments (Lammers & Stapel, 2009), which is owing to the fact that current rules are consistent with their own self-interests. Meanwhile, power increases the likelihood of moral hypocrisy. Powerful participants showed stricter judgments on cheating behaviours than their low-power counterparts, but they actually engaged more in cheating behaviours than low-power participants (Lammers et al., 2010). Meanwhile, powerful individuals are more likely to judge other transgression actions harsher than powerless individuals, but they accept the same immoral actions of themselves (Lammers et al., 2010).

Power holders may prefer deontology when the rules are consistent with their own self-interests, but they do not always make this judgment (e.g., when the transgression behaviours are their own) (Lammers & Stapel, 2009; Lammers et al., 2010). However, the evidence for this is inconsistent; for example, high social class – a construct related to power – is associated with utilitarian choices (Côté, Piff, & Willer, 2013). Lammers et al. (2015) gave a possible explanation: without an inhibited tendency, power allows people to ignore the rules and social stress and to make a trade-off between different options.

### 1.1.6 Summary and Outlook

Scholars defined power from different perspectives, including control,

relation, influences, identity, consent and social structure. For the current research, we defined power as the ability to control resources and outcomes (see Keltner et al., 2003), and we also treat other factors as features and contents of power.

There are various methodologies to study power via measurement and manipulation. Power as a psychological state can be stimulated by mind-set priming (e.g., recalling and re-experiencing past events) and role-playing tasks. Also, power can be measured using a questionnaire, as it is a relatively long-lasting state. These approaches are all effective methods of studying power (Guinote, 2017). The measurement of power targets a personal sense of power in natural conditions, and the manipulation of power is used in experiments to study the causality relationship between power and cognition or behaviours. In this project, we mainly study power by mind-set priming (i.e. recalling past events) and role-play/role-simulation manipulation. Also, we study power according to the power state of participants in natural conditions in Study 2.

Section 1.1.3 described three main theories in power research area: power as-control theory, power approach/inhibition theory and the situated focus theory of power. These three theories build up our research rationale. Power-as-control theory focuses on how power affects social perception and proposes that control motivation provides an explanation for the differences between the powerful and the powerless. Power approach/inhibition theory considers power in the system of approach and inhibition, and summarises the effect of power on affects, cognition, behaviours and the orientation towards rewards and threats. However, this theory cannot explain

other phenomena outside the system of approach and inhibition. In contrast, the situated focus theory discusses attention, cognition and behavioural processes affected by power. Power directs cognitive resources for responses and prioritisation following their active goals, self-disposition and situational demanding. Three theories reflect the effects of power from different perspectives. To investigate how and why power affects moral judgments, the current research will take these theories into consideration.

Power affects various psychological variables, including cognitive processing style, goal focus, the motivation to maintain authority and morality. As previous sections mentioned, power holders prefer deontological moral thinking. Meanwhile, power increases automatic and intuitive processing, goal focus and the tendency to maintain their current authority. This research will investigate how these tendencies explain the moral judgment preferences of powerful individuals.

Section 1.2 will now seek to elaborate upon the research into moral judgments.

**1.2 Moral Judgments**

The study of moral judgments in psychology can be traced back to moral philosophy in the 18th century (e.g., Hume, 2006; Hume, Árdal, & MacNabb, 1739; Kant, 2017). Moral judgments are defined as evaluations (good vs. bad) of the actions or characters of a person that are made with respect to a set of virtues held to be obligatory by a culture or subculture (Haidt, 2001). For instance, a job choice can

be seen as related only to self-interests, but in the ethical area one individual could bring benefits or harm to others by their choices and behaviours. Some issues employ moral-related contents compared to others; for example, abortion, euthanasia, the death penalty and relief for the poor.

**Stages of Moral Activities.** Researchers proposed that moral judgments are one of the components in the whole moral development or moral activity. For instance, Rest's Four Component Model (1986) proposed four components: 1) moral sensitivity; 2) moral judgment; 3) moral motivation; and 4) ego strength or moral character. Moral sensitivity is the process by which individuals interpret a social situation and identify that there is a moral problem. Moral judgment concerns the process by which a person selects one course of action as the morally best choice. Moral motivation concerns how individual prioritise moral values, while ego strength or moral character is the process by which individuals persist in the moral action, and overcome distractions and fatigue (Narvaez & Rest, 2014).

Subsequently, a six-component model has been commonly accepted: 1) moral perception; 2) moral reasoning; 3) moral judgment; 4) moral intention; 5) moral behaviour; and 6) moral behavioural evaluation (Srnka, 2004). Moral decision is first activated by moral perception. People are initially aware of the presence of a problem that requires a solution (Kirsch 1977) and the possible consequences of the issue (Hunt & Vitell, 1986). Then, people enter the moral reasoning stage in which they employed different moral philosophical theories to evaluate different alternatives; for example, deontology and utilitarianism (Turiel, 1983). This stage is

also dependent on individuals' moral development stage (Kohlberg, 1969; Piaget, 1965) and the contextual cues (Haidt, 2001, 2003). Then, moral judgment is generated from the reasoning considerations in the last stage, which represents an individuals' value about what is morally 'good' or 'bad' (Hunt & Vitell 1986). Under the guide of moral judgments, people own a possible intention to engage in a moral-related behaviour, and finally behaviour evaluation is followed the action (Srnka, 2004).

### 1.2.1 Deontology and Utilitarianism

Moral judgments can involve a variety of thoughts, processes and moral theories. This research will focus on two common moral theories – deontology and utilitarianism – and it shall explore how power affects the preferences for deontology and utilitarian during moral judgments. Therefore, we will first define deontology and utilitarianism, before distinguishing them from some similar concepts in this section.

When people make a decision, they typically need to make a trade-off between rightness/fairness and utility. The trade-off is an important feature of moral decision making. When conflict between two options occurs, one individual needs to make a judgment. Different options differ in their characteristics, but there does not exist an option that is better than all other choices. At this time, the decision maker must choose one option and sacrifice the advantages of the other(s). Decision makers need to compare the characteristics of different choices and the trade-off before they make the last decision (Luce, Bettman, & Payne, 2001; Payne, Bettman, & Johnson, 1993).

During the trade-off, there usually exists a conflict between deontology and utilitarianism. Deontology and utilitarianism – two theoretical explanations of moral judgment in normative ethics – use different bases when judging the moral status of acts and implying different cognitive processes. Utilitarianism mandates promoting 'the greatest good for the greatest number'; it addresses the maximising benefits, the good and utility (Bentham, 1948; Darwall, 2003b; Kant, 1785). In contrast, deontology follows what is right and takes a certain universal value by checking whether certain qualities of actions against rules must be honoured, thereby setting up constraints on actions. It concerns duty and responsibility, what must be done and what must not be done – regardless of the benefits (Darwall, 2003a). The easy way to distinguish the good and the right is that "the good attracts our desires while the right tells us what we must do" (Gaus, 2001b, p. 179). From the perspective of deontology, stealing is wrong, even if the act could bring about good outcomes. Harm is also refused by deontologists, even if it could prevent more serious harm. Although the choices of two types of moral theories are totally different in some extreme situations, it is hard to say which one is right or wrong, as they focus on different aspects.

Utilitarianism is usually described as a slogan: 'the greatest good for the greatest number'. However, this slogan is somewhat misleading. Actually, utilitarianism focuses on the overall good. For instance, if the decision/action could increase the goodness of most people (the greatest number), but a small group of people lose much more than the gain of the greatest number, this action will also be

rejected by utilitarianism (Sinnott-Armstrong, 2003).

Classical utilitarianism is opposed to deontology because it does not consider any moral rightness if the rightness is not related to the consequences. All moral philosophies that concern consequences and reduce all morally relevant factors could be defined as utilitarianism (Kagan, 1998). However, there exists various categories in the definition of deontology and utilitarianism. For instance, total consequentialism – as one type of utilitarianism – means that moral rightness depends only on the total net good in the consequences, while maximising consequentialism focuses on which consequences are best (Sinnott-Armstrong, 2003). This project will not precisely distinguish different types of utilitarianism and holds the view that all moral judgments considering goodness and outcomes prior to moral rightness are based on utilitarianism.

Regarding utilitarianism and consequentialism, different philosophers hold distinguished opinions about their relationship and focus on different aspects. Classical utilitarianism is actually a complex combination of many distinct claims, all of which are morally relevant to consequences (e.g., Adams, 1976; Bales, 1971; Singer, 1977). Both utilitarianism and consequentialism (including the concepts of their branches) agree that moral rightness depends on the consequences and that the difference only exists in the level (Sinnott-Armstrong, 2003). The term 'consequentialism' is not commonly used in moral judgment empirical studies, so we adopted the common term 'utilitarianism' for the purposes of this research.

It is also necessary to clarify the three terms 'rule-based moral thinking',

'deontology' and 'rule', because Lammers and Stapel's (2009) study used the term

'rule-based moral thinking'. Deontology considers what is right but not

good-promoting, which utilitarianism addresses. The rightness could mean very

specific regulations, rules and laws set by organisations and the society, but it takes a

certain universal value most of the time. Regarding the term 'rule', both deontology

and utilitarianism can follow their own rules; some philosophers call them rule

deontology and rule utilitarianism respectively (McNaughton & Rawling, 1998;

Upchurch & Ruhland, 1996). In Lammers and Stapel's (2009) study, a similar

definition as deontology was used to explain rule-based moral thinking, but the

deontological choices in their experiment designs only focused on one aspect of

deontology; that is, retaining the current regulation set by powerful person (the

teacher in Study 2), the organisation (the hospital in Study 3a) and the law (Studies

3b and 5). Thus, we proposed that the term 'rule' used in Lammers and Stapel's

(2009) study is the principle/regulation set by the context or organisation that the

powerful are in, or even directly by the person possessing power. In contrast, the

'rule' in the deontology is a more general moral norm about what is right (Gaus,

2001a, b). One aim of this study is also to extend the study scope from the specific

principle/regulation to deontology.


**1.2.2 Moral Dilemmas**

There is a very basic paradigm to investigate people's moral judgments:

moral dilemmas. This research will use moral dilemmas to study the moral

judgments of the powerful and the powerless. We will test the effect of power on

moral judgments in moral dilemmas in which harm is present or not in Studies 3 and

4. Then, this section will compare different types of dilemmas (personal

high-conflict dilemma, impersonal high-conflict dilemma and low-conflict dilemma),

give examples and then discuss how the existence of harm in dilemmas influences

moral judgments.

Moral dilemmas fully represent the trade-offs and conflicts between different

moral theories. The following is a classic example of a moral dilemma:

You are walking near the train tracks when you see a train approaching out of

control. Up ahead on the track there are five people. The driver of the train has

slammed on the brakes, but these have failed and the train is now rushing towards

the five people. It is moving so fast that they will not be able to get off the track in

time. You stand next to a switch that you can throw to turn the train onto a side track.

However, there is another single person on the side track. Will you choose to kill one

to save five? (Greene, Morelli, Lowenberg, Nystrom, & Cohen, 2008; see also Foot,

1967).

Another example of a moral dilemma is the "Heinz steal drug" dilemma

(Kohlberg, 1971). Heinz's wife suffers from a serious illness and she is going to die.

She needs one type of drug, but the pharmacist is selling this medicine at an

unreasonable price. Heinz does not have enough money, so he decides to steal the

drugs for his dying wife. What do you think about Heinz's stealing behaviour?

In the classical trolley dilemma (Foot, 1967), people must choose whether to

kill one person to save the other five persons. Under this situation, deontological

judgments are based on the moral duty, rightness and fairness to all people involved,

as well as taking care of life without consideration for other consequences. The

utilitarianism or consequentialist alternatives consider how to provide the greatest

good for all sides, despite the negative consequences (Bentham, 1948; Darwall,

2003a, b; Gaus, 2001b; Kant, 1785).

The typical dilemmas with conflicts of deontology and utilitarianism are

high-conflict dilemmas, such as the trolley dilemma and or the footbridge dilemma

(Greene, Nystrom, Engell, Darley, & Cohen, 2004; Koenigs et al., 2007). There are

two conditions in these dilemmas: a) dilemmas involve the conflict between two

philosophical perspectives (Deontology vs. Utilitarianism); b) one person can be

harmed in order to achieve the greater benefit.

Dilemmas such as this draw upon views about the value of life: they are

present when ethical issues about abortion, euthanasia and the distribution of scarce

medical resources are considered among others. A specific example is, "how a death

comes about, whether from natural causes, or at the hands of another" (Thomson,

1976, p. 204). High-conflict dilemmas are, therefore, a gateway for understanding

the value of life (Foot, 1967; Greene & Haidt, 2002; Thomson, 1976, 1985). Issues

such as these are highly salient for the vast majority of people; they trigger intuitive

justifications or unconscious snap choices based on one's feelings (Greene et al.,

2004; Greene, Sommerville, Nystrom, Darley, & Cohen, 2001; Haidt, 2001, 2003;

Wheatley & Haidt, 2005). Put differently, the content about harming life in

high-conflict dilemmas incline people to rely upon deontological moral thinking rules.

Among high-conflict dilemmas, there are also two categories: personal dilemmas and impersonal dilemmas. In personal dilemmas the actor generates harm to other person(s) by his/her own muscles, while in impersonal dilemmas the victims are hurt by agency. Greene proposed that personal harm "would cause (a) seriously bodily harm, (b) to a particular person or group, where (c) the harm does not result from deflecting an existing threat, and any dilemmas not meeting criteria of personal dilemmas were impersonal" (Greene & Haidt, 2002; Greene et al., 2001; see also Greene, 2009). However, in this approach, the scope of impersonal dilemma is too broad and many very different dilemmas were included in impersonal dilemmas together. The dilemmas involving whether to steal, pollute the environment and make a donation were included, as well as those involving indirect harm to life to save more people (e.g., the trolley dilemma). Consequently, other researchers tend to distinguish 'personal' and 'impersonal' dilemmas by whether the victim is hurt physically and directly in person by the actor or by other agency/mechanical-technological means (Moore, Clark, & Kane, 2008; Royzman & Baron, 2002).

Typical examples of a personal and impersonal dilemma are the footbridge dilemma and the trolley dilemma respectively (Thomson, 1986). In the trolley dilemma, participants must choose whether to throw a switch to change the direction of train to kill one person and save five, while in the footbridge dilemma participants

choose whether to push a man down a footbridge to stop the train and save five

people.


Table 1

*Comparison of personal dilemma, impersonal dilemma and low-conflict dilemma*

| | High-conflict dilemma | | Low-conflict dilemma |
| --- | --- | --- | --- |
| | Personal dilemma | Impersonal dilemma | |
| Two philosophical perspectives involved | Deontology vs. Utilitarianism | Deontology vs. Utilitarianism | Deontology vs. Utilitarianism |
| Conflict | Whether harming to achieve greater benefit | Whether harming to achieve greater benefit | Different costs and benefits to the self or others |
| How to harm | Direct harm in person | Indirect harm by agency | No harm |

However, not all dilemmas match the definition of high-conflict dilemmas

(see Table 1) that only consider the participants' relationships with the hypothetical

victims. Many other dilemmas also share the conflict of deontology and

utilitarianism, but they only involve costs and benefits to the self or others

(Petrinovich, O'Neill, & Jorgensen, 1993, see also Moore et al., 2008). These

dilemmas are not involved in harming or killing to achieve greater goods, so

participants do not experience high-level emotional arousal by vivid feelings of hurt

to others; the famous Heinz dilemma can be treated as an instance of this type

(Kohlberg, 1977). The moral dilemma in Lammers and Stapel's (2009) study also

belongs to this type; for example, the dilemma in their Study 2 discussed whether the

teacher should follow the rules they set when there is a special case, which are termed here as low-conflict moral dilemmas.

Prior research reported that the presence of harm to life affects cognitive processing during moral judgments: the presence of harm to life in high-conflict dilemmas elicit more intuitive and automatic responses when compared to low-conflict dilemma. In Haidt's moral foundation theory, harm/care is one of the most important and basic foundations of human's morality (Graham, Haidt, & Nosek, 2009; Graham et al., 2011). Haidt and his colleagues also found that when people faced some extreme dilemmas related to disgust actions, they made moral judgments but could not give a justification for their decisions. This effect was defined as 'moral dumbfounding', which was treated as evidence about moral judgments under the guide of intuition and emotion (Haidt, 2001, 2003; Wheatley & Haidt, 2005).

Furthermore, fMRI evidence also supports the relationship between harm and cognitive processing styles. Researchers used fMRI to scan participants' brains when they responded to different types of dilemmas. Emotion-related brain areas showed greater activity when responding to personal dilemmas relative to impersonal dilemmas, low-conflict dilemmas[1] and non-moral decisions. Conversely, brain areas related to abstract reasoning and problem solving showed increased activity when responding to impersonal dilemmas and low-conflict dilemmas (Greene & Haidt, 2002; Greene et al., 2004; Greene et al., 2001). Also, moral judgments relying on

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[1] Greene et al. (2001, 2004) only compared personal dilemmas and impersonal dilemmas, but their concept of 'impersonal dilemma' included both concepts of impersonal dilemma and low-conflict dilemma in this research.

intuition occur when harm in high-conflict dilemmas is personal, rather than

impersonal (e.g., Cushman & Greene, 2012; Greene et al., 2009; Moore et al., 2008).

By summarising all of this evidence, it can be concluded that the presence

(absence) of harm is a highly determinant factor that drives people to make different

moral judgments. One of our aims in this research is to show the role of harm to life

in moral dilemmas in the effect of power on moral judgments, which will be tested in

Studies 3 and 4.

### 1.2.3 Intuitionist and Rationalist Model

There are two models that can be used to explain the moral judgment

process: the intuitionist model and rationalist model. Classical moral studies follow

the rationalist approach (e.g., Kohlberg, 1969; Piaget, 1965), commonly holding the

belief that moral development, moral principles and moral reasoning styles are

relatively stable features of people (Lapsley, 2006). Later, intuitionist models

stressed the role of context, intuition and emotions, and challenged the position of

moral reasoning as the sole or even primary means of moral judgment (Haidt, 2001;

Haidt, Bjorklund & Murphy, 2000). The intuitionist model proposed that moral

judgments are reached by various contextual, affective and cognitive factors, rather

than just the results of inner reasoning. Therefore, power as a contextual factor can

possibly affect moral judgments, and cognitive processing style, goals and the

motivation to maintain authority can possibly take effects as the psychological

processes underlying the relationship between power and moral judgments. The

intuitionist model provides a theoretical possibility for the current research.

The intuitionist moral model tends to be automatic and is not constrained by cognitive resources, while the rationalist model usually engages systematic cognitive systems. These processing tendencies map into two forms of processing proposed by dual models in social cognition: automatic social cognition and controlled social cognition. Automatic social cognition relies on heuristics and simple rules to make judgments; it is relatively rapid and effortless. Controlled social cognition tends to consider multiple options and stimulus characteristics; it is deliberate and effortful (Wegner & Bargh, 1998). Intuitionist and rationalist models stress the primary position of intuition and reasoning respectively, so we will discuss intuition and reasoning first before introducing these two models.

**Intuition and Reasoning**. Moral intuition and moral reasoning are two important factors that scholars discuss in the processes leading to moral judgments. Moral reasoning is an intentional, effortful and controllable mental activity that consists of transforming given information to reach a moral judgment; it is conscious by the reasoner (Bargh, 1994; Galotti, 1989). Moral intuition is regarded as "a sudden consciousness of a moral judgment, including an affective valence (good-bad, like-dislike), without any conscious awareness of having gone through steps of searching, weighing evidence, or inferring a conclusion" (Haidt, 2001, p. 818). Moral intuition leads to moral judgments by an effortlessly mental process and people are seldom aware of this effect. Intuition cannot be equalled with emotion, because both intuition and reasoning can be involved with emotion (Frijda,

1986).

Haidt (2001) summarised the differences between the system driven by intuition and reasoning (see also Bruner, 1986; Chaiken, 1980; Freud, 1900; Petty & Cacioppo, 1986; Reber, 1993). The system driven by reasoning is slow and effortful. Facing a moral issue, the process is intentional, controllable, consciously accessible and viewable. People must allocate attention resources to complete the process and reach the final moral judgments by truth perseverance and analytical thinking. Similar outcomes can be reached by similar processes, so the system is context independent. In contrast, the system guided by intuition is fast and effortless. People process the issue unintentionally and automatically without attention resources, and the process can be parallel with other activities. However, people cannot access their mental process and can only see the results. The system is easily affected by the context and depends on everyone's specific brain and body.

**Rationalist Model.** The rationalist model was a classical approach in moral research throughout the 20$^{th}$ century. According to Kohlberg (1969) and Piaget (1965), rationalist approaches in moral psychology stress that moral judgments are reached through a process of reasoning and reflection. Moral principles and moral thinking styles are considered as relative stable features of people (Lapsley, 2006).

Piaget (1965) proposed a seminal theory in the field of child development: the cognitive-development theory. In this theory, children's moral reasoning is divided into two stages: heteronomy and autonomy (Lapsley, 2006; Piaget, 2013). Three features are identified in the heteronomous moral stage:

1) Children consider moral duty in terms of obedience to authority;

2) The moral rules are treated unchangeable;

3) Any violation of these rules is followed with punishments (Lapsley, 2006). In contrast, the autonomy moral stage usually exists in an equal peer relationship. Moral reasoning does not fix upon laws, punishment or the strictures of authorities (Piaget, 2013).

Following Piaget's (1965) approach in moral development research, Kohlberg (1969) proposed the moral stage theory, arguing that the heteronomy-autonomy stage of Piaget lacks inner logic. Kohlberg stressed that the stages must follow an invariant sequence: individuals should move one step at a time through the stage sequence and always in the same order (Kohlberg, 1987). He focused more on ethical reasoning by examining how children construct moral meaning and reason in moral dilemmas. Kohlberg used a series of dilemmas (e.g., Heinz steals the drug) to interview participants (adults and children) to see how people resolved these conflicts. He proposed three levels and six stages in moral judgments development: 1) The punishment and obedience orientation; 2) The instrumental relativist orientation; 3) The interpersonal concordance orientation; 4) The law and order orientation; 5) The social-contract legalistic orientation (generally with utilitarian overtones); 6) The universal ethical-principle orientation.

Kohlberg believed that moral development does not only represent an increasing knowledge of cultural values related to ethical relativity, but it also represents the transformation of the person's form or structure of moral judgments

(Kohlberg & Hersh, 1977). They hold the view that the cultural value and context cannot affect how a person perceives, reasons, judges and solves problems. One individual's moral reasoning is dependent on his/her moral development stage, which is universal across cultures (Kohlberg & Hersh, 1977).

Kohlberg and Piaget both endorsed rationalism. For instance, Kohlberg mentioned that "the moral force in personality is cognitive. Affective forces are involved in moral decisions, but affect is neither moral nor immoral. The moral channelling mechanisms themselves are cognitive" (Kohlberg, 1971, pp. 230-31).

Subsequent to Piaget and Kohlberg, there are researches against their stable reasoning stage approaches to moral judgments, such as the social interactionist perspective (Nucci & Turiel, 1978; Turiel, 1983). Turiel (1978) interviewed children with materials about rule violations and asked them to give justifications for their judgments. This approach focused on moral development in the social context. Moral rules can be shaped by children's interactions in peer relations, such as taking turns, sharing and responding to harm (Haidt, 2001). Researchers found that children's moral judgments can be modified by different cues from adults (Lapsley, 2006; see also Bandura, 2014). Children have the capacity to distinguish the differences between moral and conventional rules (Smetana, 1983), and between morality and the commands of the adults (Weston & Turiel, 1980). The legitimacy of punishments also modifies how children treat moral rules (Smetana, 1981, 1983). Regarding adults, Turiel, Hilderbrandt and Wainryb (1991) found that young adults consider whether harmful consequences exist when they judge an action. Belief,

such as informational assumptions, also affects adults' judgments about abortion (Turiel et al., 1991). More researchers are aware that moral judgments are not simple results of a series of reasoning processes.

**Intuitionist Model.** In recent years, intuitionist models challenged the position of moral reasoning as the sole or even primary means of moral judgment. This provides theoretical supports for our current research. Moral judgments are also affected by social contextual factors (i.e., power), cognitive factors (i.e., cognitive processing) and motivations (i.e., goal focus and the motivation to maintain authority). The intuitionist model proposes that people grasp the moral truth, not by a clear rational thinking process, but just decide by what they think is right – even without any rational arguments. In the intuitionist model, when one individual faces an ethical issue, moral intuitions come first and directly lead to moral judgments (Haidt, 2001). Haidt gave an example called 'moral dumbfoundedness': Julie and Mark are brother and sister, but they make love during a summer vacation. They take birth control pills and Mark uses a condom to prevent any pregnancy. When people hear this story, they say it is wrong, but they cannot give an immediate justification; they must search for reasons to argue for their judgments (Haidt et al., 2000).

This approach can be traced to classical philosophy theory. David Hume (1977/1960) regarded moral judgments as aesthetic judgments, though they come from feelings and internal senses, not from arguments. Hume pointed out that rationalism cannot complete a moral judgment by itself, and it is only when people hold moral sentiment that a moral judgment can be completed. Freud (1900/1976)

also believed that people's moral judgments are driven by their unconscious

motivation and feelings, and later are rationalised with acceptable reasons.
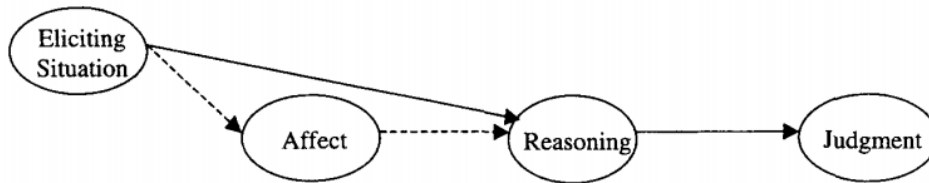


*Figure 1.* The rationalist model of moral judgment. Moral affects such as sympathy

may sometimes be inputs to moral reasoning (Haidt, 2001, p. 1025).
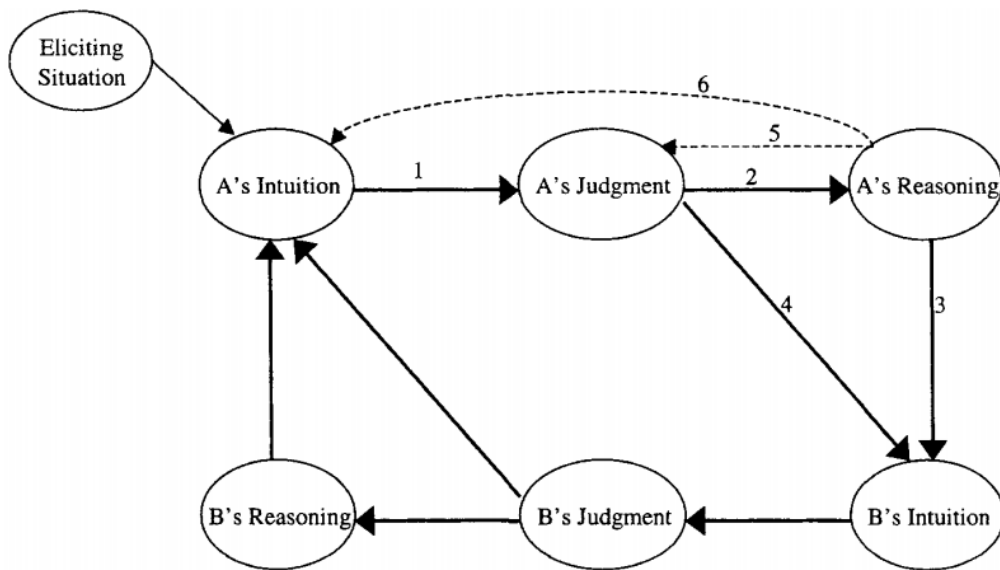


*Figure 2.* The social intuitionist model of moral judgment. The numbered links,

drawn for Person A only, are (1) the intuitive judgment link, (2) the post hoc

reasoning link, (3) the reasoned persuasion link and (4) the social persuasion link.

Two additional links are hypothesised to occur less frequently: (5) the reasoned

judgment link and (6) the private reflection link (Haidt, 2001, p. 1025).

There are two cognitive processes often involved in moral judgments: reasoning and intuition. Haidt (2001) highlighted that reasoning has been overemphasised in previous theory and research. Instead, he proposed that moral emotion, rather than moral reasoning, has more effect upon moral judgments. Moral reasoning is actually a post hoc justification driven by motivation (see Figures 1 and 2). Only when people feel the need to make a justification do they reason deliberatively. For instance, people rely on affects and emotions to judge some offensive but harmless actions (e.g., eating a dead dog, cleaning a toilet with the national flag etc.) as wrong (Haidt, Koller, & Dias, 1993).

Moral judgments are affected more by context than conscious reasoning (e.g., Cushman & Young, 2011; Greene et al., 2008; Suter & Hertwig, 2011; Valdesolo & DeSteno, 2006; Wheatley & Haidt, 2005). For instance, the harming choices to maximise the greater good in high-conflict dilemmas elicit strong aversive intuition (Greene et al., 2004; Koenigs et al., 2007), which further leads to less utilitarian judgments (Greene et al., 2009; Loewenstein & Small, 2007; Moore et al., 2008; Slovic, 2007). Many contextual factors that affect motivation, and the extent to which people engage in effortful (vs. automatic) reasoning, have effects on moral decisions; examples include time (Suter & Hertwig, 2011), cognitive load (Greene et al., 2008) and, of particular interest here, whether people are threatened with harm to life (e.g., Cushman & Young, 2011; Cushman, Young, & Hauser, 2006; Greene et al. , 2001; Hauser, Cushman, Young, -Kang-Xing Jin, & Mikhail, 2007; Heekeren et al., 2005; Treviño, Weaver, & Reynolds, 2006; Waldmann & Dieterich, 2007).

The intuitionist models posit that certain situations automatically elicit moral intuitions, which guide moral judgments (Reber, 1993; Zajonc, 1980). From this perspective, unconscious, affective responses are automatically triggered by certain moral issues and provide a strong bottom-up influence on judgments and decision making (see Figure 1) (Haidt, 2001, p. 1025). Intuition usually first arouses moral judgments automatically, followed by moral reasoning, since an effortful process searches for arguments to support and justify the judgments made by intuition. The role of moral reasoning is viewed as a post hoc modification (Nisbett & Wilson, 1977). Meanwhile, the moral judgments are interpersonal and can affect other persons intuitively (see Figure 2) (Haidt, 2001, p. 1025). However, Haidt also posited that there exists the situation in which moral reasoning overrides moral intuition. When the intuition is weak and rationality is strong, individuals process the moral issue via a sheer force of logic.

**Dual Process Model.** A dual process model of moral judgment also has been proposed (Gibbs, 1991; Greene, 2009; Greene et al., 2004; Greene et al., 2008; Greene et al., 2001), which can be regarded as a supplement for the intuitionist model. Also, this model discusses how intuition (vs. deliberation) relates to deontological (vs. utilitarian) judgments in details.

Scholars associated two types of cognitive processing style with deontological and utilitarian judgments. Deontological judgments are thought to be driven by automatic emotional processes, while utilitarian moral judgments are supported by controlled deliberative cognition (Bartels, 2008; Ciaramelli, Muccioli,

Ladavas, & Di Pellegrino, 2007; Greene et al., 2008; Koenigs et al., 2007; Moore et al., 2008; Valdesolo & DeSteno, 2006); for example, decreasing cognitive resources for deliberation can interfere with utilitarian moral judgments. In one study, participants were asked to respond to high-conflict personal moral dilemmas (e.g., the footbridge dilemma) under cognitive load (i.e., a concurrent digit-search task) and in control condition. Cognitive load only interfered with utilitarian moral judgments, yielding increased response time, but it did not interfere with deontological moral judgments (Greene et al., 2008). In contrast, deontological judgments are usually driven by intuitive processing. More deontological judgments occur under time pressure compared to no time pressure and intuitive thinking instruction brings more deontological judgments than deliberative thinking instruction (Paxton, Ungar, & Greene, 2012; Suter & Hertwig, 2011).

In dual process model of moral judgments, intuition and deliberation compete with one another. If one individual is given enough time, motivation and cognitive resources, they will consider using the rational system firstly (Conway & Gawronski, 2013). In contrast, when the individual experiences strong emotion or does not have enough time, motivation and cognitive resources to make judgments, intuition guides moral judgment; this leads to more deontological moral choices. For instance, when the individual faces a choice between harming other(s) and saving more lives, they experience negative emotions and intuitive aversion caused by harm to life (Greene et al., 2004; Koenigs et al., 2007).

In this research, we adopt the views of the intuitionist model and dual process

model regarding how moral judgments are generated. Moral judgments are situated and are easily affected by various contextual factors.

**1.2.4 Influencing Factors in Moral Judgments**

The last section discussed three theories surrounding how people make moral judgments. These theories mentioned the role of context and cognition in moral judgments. The current research is based on the intuitionist model and dual process model. At the beginning of this chapter, it was mentioned that this study will firstly explore how power affects moral judgments in different types of dilemmas in the presence or absence of harm, before exploring the contributing factors that explain the effect of power on moral judgments (i.e., cognitive processing style, goal focus and authority maintenance). Section 1.1.4 has discussed the evidence for the link between power and cognitive processing style, the link between power and goal focus, and the link between power and authority maintenance. This section will discuss the empirical evidence for the effects of harm, cognitive factors, goal and motivation on moral judgments. Also, as Studies 1 and 2 involve different cultures from the original study of Lammers and Stapel (2009), this section will also introduce previous studies into moral judgments in different cultures.

**Harm.** Harm in dilemmas is an important outer factor leading to deontological moral options (Greene, 2009; Haidt, 2001). Studies 3 and 4 will discuss how harm modifies the association between power and moral judgments. The link between harm and deontological/utilitarian moral judgments provides theoretical supports for the studies. Greene and his colleagues (Greene et al., 2001; Greene et al.,

2004) found that the emotion caused by personal harm in a moral dilemma interferes with utilitarian moral judgments. Neuroimaging evidence revealed that personal harm in moral dilemmas arouses more neural activity in intuition and emotion-related brain areas, and participants spent longer accepting a utilitarian choice. Emotion-related brain area damage is found to be related to preferences for utilitarian moral judgments in high-conflict dilemmas with harm (Ciaramelli et al., 2007). Koening et al. (2007) tested patients with focal bilateral damage to the ventromedial prefrontal cortex (VMPC) – an important brain region for emotions and social emotions – and found that they are more likely to choose sacrificing one person's life to achieve greater benefits (i.e., utilitarian moral judgments). In summary, harm, especially personal harm, arouses intuition and then leads to difficulties in making utilitarian moral judgments.

**Cognitive Factors.** Chapter 3 will investigate how power affects moral judgments via cognitive processing style, while this chapter discusses the evidence about how various cognitive factors influence moral judgments. Contextual factors that affect the extent to which people engage in effortful (vs. automatic) reasoning can influence moral judgments, such as time (Paxton et al., 2012; Suter & Hertwig, 2011), cognitive load (Greene et al., 2008; Körner & Volk, 2014), harm (Cushman & Young, 2011; Greene et al., 2001; Hauser et al., 2007) and instruction to cognitive style (Paxton et al., 2012).

Tasks that induce intuition decrease utilitarian judgments. Cognitive load is found to affect utilitarian moral judgments via the decreasing cognitive resources for

deliberation. In one study, participants were required to make judgments in high-conflict moral dilemmas, which were divided into load block and control block dilemmas. In the load condition, participants were asked to read the dilemma while also searching for the number 5 in a stream of numbers scrolled across the screen beneath the text. The results showed that cognitive load increased the reaction time taken to make utilitarian judgments significantly, but that it did not affect deontological moral judgments (Greene et al., 2008); similar results occurred under working memory load (Moore et al., 2008). People with lower working memory capacity did not have enough cognitive control with memory load, thus they made fewer utilitarian moral judgments.

In contrast, a number of factors that elicit deliberative reasoning foster utilitarian reasoning. For instance, one study induced participants to reflect more about the moral dilemmas by cognitive reflection tests prior to their judgments and this manipulation increased utilitarian moral judgments (Paxton et al., 2012). Time is another important factor in moral judgments (Paxton et al., 2012; Suter & Hetwig, 2011). Forcing participants to deliberate for three minutes significantly increases their utilitarian moral choices when compared to participants who were under an eight-second time constraint. Similarly, self-paced judgment times showed the same tendency: longer time predicts more utilitarian judgments than deontological judgments (Suter & Hetwig, 2011). Asking participants to deliver strong arguments also leads to increasing utilitarian judgments (Paxton & Greene, 2010; Paxton et al., 2012). All the mentioned evidence lends further support for the link between

deliberation and utilitarian judgments.

Above all, the factors that induce intuition decrease utilitarian judgments and the factors that elicit deliberative reasoning foster utilitarian reasoning. According to previous studies, Studies 5 and 6 will use cognitive load and the delivery of strong argument instructions as tasks to manipulate intuition/deliberation in order to study if cognitive processing style contributes to explaining the relationship between power and moral judgments.

**Motivation, Value and Goals.** Besides cognitive factors and harm in dilemmas, moral judgments are more affected by an individual's motivation, values and goals. Goals can decide an individual's choices, and people showed a tendency to hold the attitudes and beliefs that can satisfy their current social goals (Chen & Chaiken, 1999). This tendency is also present in the moral judgment area. Individuals are able to modify their moral judgments according to their motivation, values and goals, which supports our assumption about the moral judgments of power holders following activated goals and their motivation to maintain authority in Chapter 4. The mission of organisations affects the ethical choices of leaders (Becker & Fritsche, 1987; Jackson, 2001; Ralston, Gustafson, Cheung, & Terpstra, 1993; Schultz et al., 1993). For instance, managers in companies with a culture characterised by individualism believe that ethical norms are absolute and applied universally, while those in a collectivist culture think that ethical behaviour depends on the situation (Ralston et al., 1993; Smith & Hume, 2005).

Goals trigger selective attention in line with goal-relevant information, and

affect the weight that people give to different options (Deci & Ryan, 2000; Goldratt, & Cox, 2016). Consequently, goals affect moral judgments. For example, focusing on long-term goals increases immanent justice reasoning (i.e., attributing a negative event to individuals' prior moral failings); this occurs because long-term goals activate a belief in the just word (Callan, Harvey, Dawtry, & Sutton, 2013). Perceived progress on egalitarian goals is also found to have an influence on subsequent racial bias (Mann & Kawakami, 2012).

Values have similar effects to goals, and people make moral judgments consistent with their values. One very salient value is the protected value; that is, people "focus on the restrictive trade-off rules participants have for certain kinds of (moral) goods and suggests that situation-specific values engender nonconsequentialist decision strategies" (Bartels, 2008, p. 383; see also Baron & Spranca, 1997). People who hold protected values make judgments that are not or minimally driven by consequences, but by the moral rules concerning the ways the resources should be treated (Baron & Spranca, 1997; Ritov & Baron, 1999). This value occurs in various areas including the environment, human rights, the lives of human or animals, artwork etc. Future orientation is another example: it predicts how people judge the victim and attribute the cause of the negative event to victim derogation in negative events (Bal & van den Bos, 2012).

Moral managers with ethical leadership are the leaders who hold integrity and honesty as the most important values. Under the guide of ethical values, they tend to put their efforts into influencing a subordinates' ethically related behaviours.

They express ethical tendencies across situations and time, and make judgments

based on ethical rules (Brown & Treviño, 2006; Carroll, 1991; Treviño, Brown, &

Hartman, 2003; Treviño, Hartman, & Brown, 2000). Leaders also pursue a right

relational value in their position facing a choice between deontology and

utilitarianism, as two opposite options in one dimension cannot satisfy the judgments

and decisions of power holders; they are more willing to make ethical decisions with

right relational values in their position (Ladkin, 2006).

Bartels (1967) proposed a model for ethics in marketing and considered a

series of variables relevant to ethical decision making. Role expectation was thought

to be a significant determinant of moral judgments. Individuals' moral judgments are

also affected by the inter-relationship, cultural expectations of integrity, disclosure,

honesty and the expectations about their job from the public.

In this vein, we argue that the links between power and moral judgment are

situated, rather than static; they are dependent on the context that gives rise to power.

**Culture.** Studies 1 and 2 examined the effect of power on moral judgments

in different cultures in comparison to the culture of the original study, so this section

shall discuss the possible influence of culture on moral judgments. Scholars also

considered culture as an important factor in moral judgments. Moral reasoning

involving harm, such as in the classic trolley dilemma, is similar across cultures (e.g.,

Hauser et al., 2007; O'Neill & Petrinovich, 1998). However, differences have

emerged in dilemmas that did not involve harm. For instance, Chinese children

considered breaking the rules (i.e., lying) when it would help the group but harm an

individual as less negative when compared to Canadian children (Fu, Xu, Cameron, Heyman, & Lee, 2007). Those from Eastern cultures are also more likely those from the West to follow authority, loyalty and purity rules (Graham et al., 2011). One study by Ahmed, Chung and Eichenseher (2003) assessed the moral decisions of business students from six countries, including China, Egypt, Finland, Korea, Russia, and USA. This study found that students from China and Russia showed a stronger inclination not to act unethically in a trade-off between profits and ethnicity when compared to those from other countries. American students tended to think that profits and ethics can be compatible with each other compared with students from other countries. Russian students maintain the importance of profit over ethics. Therefore, it is informative to compare moral reasoning across cultures using dilemmas that do not involve harm to examine the generalisability of the relationship between power and moral thinking styles.

### 1.2.5 Summary and Outlook

Moral judgment is the evaluation made in an ethical issue; it is also one stage of the entire moral activity. When people make a moral judgment, they must make a trade-off between rightness and utility, which links to two types of moral theories: deontology and utilitarianism. Deontology follows what is right and the universal value, and utilitarianism highlights the maximising outcomes and benefits. Researchers typically used moral dilemmas as a basic paradigm to study the conflict between two types of moral values (e.g., the trolley and footbridge dilemmas). People

must make a choice between harm and achieving better outcomes.

Moral dilemmas can be divided into high- and low-conflict dilemmas according to whether there exists any harm to life, while high-conflict dilemmas can be divided into personal and impersonal dilemmas according to the presence (absence) of personal force. Harm to life – especially personal harm – leads to more deontological moral judgments via moral intuition. In the current research, we will compare how power affects moral judgments across different types of dilemmas.

There are two basic models that can be used to explain the moral judgment process: the intuitionist model and the rationalist model. Classical moral theories from Kohlberg (1969, 1987) and Piaget (1965) belong to the rationalist model, in which moral judgments are usually thought to be reached by a series deliberative moral reasoning and are not affected by other contextual cues. However, recent empirical evidence supports the intuitionist model. Moral judgments are usually driven by moral intuitions, and moral reasoning only acts as a post hoc role to modify the initial judgments and provide justification. This research is also based on the approach of the intuitionist model.

According to the intuitionist model, moral judgments can be affected by a variety of inner and outer factors, including cognitive factors, harm, motives and goals, and culture. Deontological moral judgments are usually driven by intuitive thinking, while utilitarian judgments are associated with deliberative thinking. Harm to life leads to more deontological moral judgments via moral intuition. Goals trigger selective attention in line with goal-relevant information and affect the weight that

people give to different options when construing moral judgments, while culture also modifies moral judgments in some specific issues. This project will investigate how cognitive processing style, goal focus and motivation to maintain authority act as the mechanisms underlying the association between power and moral judgments, which tested the generalisability of the effect across dilemmas and culture.

The subsequent Section 1.3 will discuss the rationale of how power affects moral judgments, the boundary condition generated by dilemmas in the presence or absent of harm, and the role of cognitive processing style, goal focus and the motivation to maintain the authority as the possible underlying processes.

## 1.3 Power and Moral Judgments

Section 1.1 discussed how power impacts cognition and behaviours, and why these impacts happen. The possible driven factors of moral judgments have been also discussed in Section 1.2. This section will link these two parts of knowledge and shall theoretically discuss how and why power can influence moral judgments. The aims of this part are to introduce the rationale of the entire research and what its aims were, including the link between power and moral judgments, the possible boundary condition in the presence of harm, and the role of processing style, goal focus and authority maintenance as the underlying mechanisms.

As discussed earlier, previous studies suggest that power – a ubiquitous factor linked to control and influence (Fiske, 1993; Guinote, 2017; Keltner et al., 2003) – affects moral reasoning. Lammers and Stapel (2009) examined moral thinking styles

by comparing powerful and powerless participants' reasoning in a number of low-conflict scenarios in a Western country; they manipulated rules and outcomes in various everyday life situations in the absence of harm to life (Moore et al., 2008; Petrinovich et al., 1993). The studies manipulated a sense of high/low power using word-search puzzle tasks, recall of past events and simulations of power roles. They then required participants to evaluate moral dilemmas. For instance, in Study 3a, a doctor needed to decide whether to inform a patient of his incurable disease immediately, as was the rule in the hospital, or to inform the patient when he returned from his holiday.

The results showed that people induced to experience power preferred rule-based (deontological) moral judgments[2], whereas those induced to experience a lack of power were more likely to follow outcome-based (utilitarian) moral strategies consistently across these studies. This occurred because the possession of power increased the need to maintain the current social order. Increased rule orientation mediated the association between power and deontological moral judgments (Lammers & Stapel, 2009; Fleischmann, Lammers, Conway, & Galinsky, 2017). For instance, in Study 2 of Lammers and Stapel's research in 2009, it was specified that a teacher used a rule of rewarding well-behaved children. In their scenario, Heinz

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[2] In Lammers and Stapel's (2009) study, rule-based moral thinking shares the same definition with deontology, and outcome-based moral thinking shares the same definition with consequentialist. To make the terms easy comprehensive, they used rule-based moral thinking and outcome-based moral thinking to replace deontology and consequentialism in their research. Specifically, their dilemmas mainly discussed the conflict between outcomes and regulations set by the organization or power holders. One aim of this study is to check if the effect of power on moral judgments can be extended to classical dilemmas with conflict of deontology and utilitarianism.

followed the rules by doing his homework and should be rewarded. However, the teacher suspected that Heinz cheated in the homework assignment. When asked whether the teacher should reward the student, participants in high-power conditions tended to follow the rule.

### 1.3.1 Aims of the Current Studies

Understanding the link between power and moral judgments is important for at least two reasons. First, power holders have control over resources and have the right to make decisions (Emerson, 1962; Fiske, 1993; Galinsky et al., 2003; Kipnis, 1972). In fact, decisions with moral implications are usually made by people with power, such as teachers, managers and government officers. If powerful and powerless individuals manifest different moral thinking styles, this conflict of perspectives can hinder social harmony. Society and policy makers may need to consider these epistemological issues and intervene.

Second, understanding how power affects moral reasoning informs any theory about how power affects the mind. Although a great deal of research has investigated how power holders think about others, in particular whether they rely on stereotypes (e.g., Fiske, 1993; Guinote & Phillips, 2010; Overbeck & Park, 2001, 2006; Schmid Mast, Jonas, & Hall, 2009), much less is known about how power affects moral thinking styles. The current research will increase the current understanding about the effect of power in morality

As we mentioned in Sections 1.2.3 and 1.2.4, moral judgments are affected

by contextual, rather than fixed factors. However, Lammers and Stapel (2009) did not consider how power and context interact with each other to affect the process of judgments construal. Consistent with the situated focus theory of power, power selectively aligns individuals with priorities that are relevant in the current situation, in particular active goals. Therefore, here we hypothesise that power holders' capacity to prioritise and shift cognitive resources across situations (see Guinote, 2007a, b, 2010; Schmid et al., 2015) will lead to situation-specific moral judgments aligned with focal goals, as well as moral flexibility across situations. In contrast, the powerless will deliberate moral issues and different options. Their moral judgments should have greater stability across different contexts compared to those of powerful individuals.

How can this perspective be reconciled with prior findings to indicate that power leads to deontology? To understand this question, the biases that stem from having power need to be considered. Chronic goals associated with power roles, or dispositions and biases linked to cognitive processing style, both influence the judgments of power holders; for example, the goal to maintain the authority has been established as a primary goal of a power holder (Guinote, 2017). This goal calls for deontological reasoning and could frequently guide power holders. However, when other priorities with implications for moral judgments are active, power holders will follow these priorities, and their moral judgments may be shifted. Both authority maintenance goals and the tendency to process information intuitively should pull power holders towards deontology. However, in a context where utilitarian priorities

are active, this may not be the case.

### 1.3.2 Power and Moral Judgments in Different Contexts

**Harm to Life.** Lammers and Stapel's (2009) studies were based on relatively innocuous everyday life situations (Moore et al., 2008; Petrinovich et al., 1993). For instance, in one scenario (Study 2), a teacher had to decide whether to punish/reward a child in class. In another scenario (Study 3), a doctor had to decide whether or not to give a patient some bad news immediately. The question that arises is whether power affects moral reasoning in the same way in situations where there is more decision-making conflict, and when dilemmas involve harm to life. This important question has not been examined to date.

As mentioned in Sections 1.2.2 and 1.2.4, any presence of harm to life triggers intuitive aversion and leads to unconscious, quick disapproval choices of harming (deontological choices) (Bartels, 2008; Cushman & Young, 2011; Cushman et al., 2006; Graham et al., 2009; Greene, 2009; Greene et al., 2009; Haidt, 2001, 2003; Tetlock, Kristel, Elson, Green, & Lerner, 2000; Wheatley & Haidt, 2005). In contrast, when harm to life is absent, people tend to deliberate and use an analysis of costs and benefits (Petrinovich et al., 1993, see also Moore et al., 2008), and deliberation is usually associated with a preference for utilitarian moral reasoning (Bartels, 2008; Ciaramelli et al., 2007; Greene et al., 2008; Koenigs et al., 2007; Suter & Hertwig, 2011; Valdesolo & DeSteno, 2006). If harm in high-conflict dilemmas triggers deontological reasoning, and power holders have

ready-established rule-based deontological reasoning evident in dilemmas in which harm is absent, they should retain deontological reasoning in the dilemmas in presence of harm. That is, people in high-power positions may only marginally change their judgments as a function of harm of the dilemmas. However, as discussed, people who lack power should shift towards deontology when serious harm is involved (Greene et al., 2001; Hauser et al., 2007). Consequently, harm to life in high-conflict dilemmas may give rise to a boundary effect on how power influences moral reasoning. To summarise, Lammers and Stapel's findings (2009) should replicate in dilemmas in which no harm occurs but not in dilemmas in the presence of harm. Harm to life in high-conflict moral dilemmas should prompt deontological responses among powerless individuals, which would nullify power differences.

**Culture.** The role of culture was also examined in this work. The prior study about how power influences moral thinking style (Lammers & Stapel, 2009) was conducted in Germany. We aimed to examine this effect across different cultures: in another Western culture (United Kingdom) and in an Eastern culture (China).

Moral judgments and power differ across culture. As mentioned in Section 1.2.4, moral reasoning involving harm (e.g., the classical trolley dilemma), is similar across cultures (e.g., Hauser et al., 2007; O'Neill & Petrinovich, 1998). However, differences have emerged in dilemmas that do not involve harm. For instance, Chinese children considered breaking the rules (lying) when it could help the group but harm an individual as less negative when compared to Canadian children (Fu et al., 2007).

Eastern people are also more likely than Western people to follow authority, loyalty and purity rules (Graham et al., 2011).

In addition, power affects individuals differently across cultures. Eastern countries are more collectivist compared to Western cultures. In Western societies, power is regarded as an opportunity for the pursuit of personal aims and desires. In contrast, power is considered to be a responsibility in Eastern societies (Scholl, Ellemers, Sassenberg, & Scheepers, 2015; see Guinote, 2017).

For these reasons, it is necessary to consider the role of culture to understand how power affects moral thinking styles. Despite the evidence about different moral preferences and moral behaviours in different cultures, we assume that the preferences for deontological (vs. utilitarian) judgments of power holders (vs. powerless individuals) are universal across cultures. The reasons for this belief are due to the similarities in moral judgments for high-conflict dilemmas (e.g., the trolley dilemma) across cultures (e.g., Hauser et al., 2007; O'Neill & Petrinovich, 1998), as well as the fact that power holders have similar roles and goals in hierarchical structures. One study has also replicated the association between power and moral judgments in China (Zheng & Zhao, 2013).

### 1.3.3 The Role of Cognitive Processing Style

As Section 1.1.4 showed, power is found to increase automatic and intuitive processing preferences (Goodwin et al., 2000; Guinote et al.; 2010; See et al., 2011; Weick & Guinote, 2008). Hence, we expect that power holders are more likely to use

automatic cognition and rely more on moral intuition to make judgments, rather than deliberative reasoning. Meanwhile, deontological (vs. utilitarian) moral judgments are often driven by intuitive (vs. deliberative) processing (Greene, 2009; Greene et al., 2008; Greene et al., 2001). Thus, consistent with past research, we hypothesise that cognitive processing styles are involved in power-related differences in moral judgment. According to this rational, power holders should be inclined to make deontological judgments that are triggered by intuitive reasoning preferences. In contrast, the powerless should be likely to rely on utilitarianism to make judgments driven by their deliberative processing style.

### 1.3.4 The Role of Goal Focus

In the previous section, we briefly introduced our assumption about the role of cognitive processing style taking in the effect of power on moral judgments in line with previous theories and studies. However, cognitive processing style may not fully explain all the conditions of the association between power and moral judgments. We aim to further explore what is the role of goal focus in the current section.

As mentioned in Section 1.1.3, there have been two theories found in the literature to explain how social power affects individuals' behaviours and cognition. Many studies support the notion of the powerful processing information automatically (e.g., Golby, Gabrieli, Chiao, & Eberhardt, 2001; Goodwin et al., 2000; Guinote et al., 2006; Guinote et al., 2010; Keltner et al., 2003; Klocke, 2009; Schmid

& Amodio, 2016 ; Weick & Guinote, 2008), whereas others argue that they are goal

focused (e.g., DeWall et al., 2011; Guinote, 2007c; Nissan et al., 2015; Overbeck &

Park, 2006; Seibert, Wang, & Courtright, 2011). However, we hold the view that

these two theories focus on different levels of motivations: automatic/deliberative

processing is mainly about cognitive style, while goal-focus tendency is based on

inner motivation. Thus, these two variables can influence and explain the effect of

power on moral judgments from different facets.

According to the situated focus theory of power (Guinote, 2007c, 2010),

power increases flexibility and shifts in attention and behaviours in line with salient

goals, states of the person or opportunities in the environment. We argue that power

holders will more strongly endorse goal-consistent moral reasoning when compared

to powerless individuals; this should occur because power holders are more

committed to goal pursuits than powerless individuals.

As mentioned in the section about power and goal focus (Section 1.1.4),

power holders treat fulfilling the missions of the organisation as their primary daily

goals (Hofstede et al., 2002; Willis & Guinote, 2011; Yukl, Gordon, & Taber, 2002).

Overbeck and Park (2006) found that, in product-centred organisations, power

holders focus primarily on how to maximise the product, rather than on the social

environment (see also Guinote, 2008; Weick & Guinote, 2008). However, this

finding was not the case in person-centred organisations that emphasise social

relations. In a similar vein, we hypothesise that power holders' moral judgments are

guided by their salient goals, in particular the priorities stemming from power roles,

such as the mission of the organisation and the maintenance of an appropriate levels of authority to effectively exercise power roles.

Goals trigger selective attention in line with goal-relevant information and this affects the weight that people give to different options (Deci & Ryan, 2000; Goldratt, & Cox, 2016). This tendency also occurs in moral judgments; for example, focusing on long-term goals increases immanent justice reasoning (i.e., attributing a negative event to individuals' prior moral failings). This tendency occurs because long-term goals activate a belief in the just word (Callan, Harvey, Dawtry, & Sutton, 2013). Besides, the mission of organisations can affect the ethical choices of leaders (Becker & Fritsche, 1987; Jackson, 2001; Ralston et al., 1993; Schultz et al., 1993; Smith & Hume, 2005).

In this vein, we argue that the links between power and moral judgment are situated, rather than static; they are dependent on the context that gives rise to power.

**Goal Commitment.** Goal commitment reflects the degree to which a person is determined in achieving a desired (or required) goal (Hollenbeck & Klein, 1987; Klein, Wesson, Hollenbeck, Wright, & DeShon, 2001; Locke & Latham, 1990). A higher commitment to goals could contribute to highlighting the strategies that serve active goals (Geijsel et al., 2003; Janis & Mann, 1977; McCaul, Hinsz, & McCaul, 1987; Pallak, Cook, & Sullivan, 1980; Seo, Patall, Henderson, & Steingut, 2018). This effect would also occur in ethical issues, such as deontological or utilitarian preferences (e.g., maintaining rules or focusing on outcomes).

We hypothesise that power holders are more committed to their goals, so

focal goals will more narrowly guide their moral judgments when compared to those of powerless individuals. Put differently, power holders' greater goal commitment is the mechanism that enhances the impact of power and focal goals upon moral judgments.

Following the situated focus theory of power, we argue that, because deontological and utilitarian reasoning can facilitate or hinder the attainment of certain goals, and because power holders are more committed to goal pursuit than powerless individuals, power holders will more strongly endorse goal-consistent moral reasoning when compared to powerless individuals pursuing such goals. For instance, deontological judgments will be instrumental for regulation-orientated groups and organisations that emphasise structures and rightness (e.g., those with an emphasis on order, health and safety, military or market policies that benefit from strict rules) (Cummins, 2005; Overbeck, 2010). People in positions of authority in these organisations may prefer deontological moral judgments, thus emphasising rightness. In contrast, power holders in contexts that maximise outcomes for all, such as services that focus on the welfare of people, may prefer utilitarianism in order to optimise important person related group or organisational goals.

**Desire for Authority Maintenance.** It has been argued that power holders' preference for rule-based reasoning occurs because following rules helps maintain existing power structures (Lammers & Stapel, 2009). However, rule-based orientation and rule-based (deontological) moral judgment are vastly similar concepts, and using such comparable concepts to explain a dependent variable

received criticism. Given this criticism, we directly assessed the desire to maintain authority, alongside a preference for rule-based orientation.

An extensive body of evidence has shown that, among humans and non-human primates, those in high-ranking positions desire the maintenance of hierarchical structures (Pratto et al., 1999; Sapolsky & Ray, 1989; Willis & Guinote, 2011), and threats to these structures raise stress levels and power assertion among power holders (Bugental et al., 1989; Deng et al., 2018). Maintaining authority helps power holders to access resources and effectively exercise power (Cummins, 1999, 2005). Thus, authority maintenance is a chronic goal of power holders.

We hypothesise that the motivation to maintain such authority contributes to the explanation of why power affects moral judgments. Power triggers a desire to maintain, authority regardless of which contextual level goals are active. The desire for maintaining the authority will elicit a preference for deontological moral reasoning. However, the motivation to maintain the authority will affect the moral judgments that sit alongside contextual focal goals. When contexts benefit from rules and regulations, the chronic and contextual goals are congruent to elicit deontological moral judgments among the powerful. When the goal that is activated promotes outcome, there is a conflict between the desire for maintaining the authority and the focal goal. Then, power holders' preference for deontology will be shifted towards utilitarianism.


**1.3.5 Summary and Outlook**

This section summarises the rationale of the present research. Prior findings by Lammers and Stapel (2009) showed that power increases the preference for deontology, and the authors attributed this effect to rule-based orientation. However, we found that there are still unclear issues regarding the links between power and moral judgments. In particular, the constructive characters of moral judgments have not been considered in this topic, and it is valuable to investigate the moral judgments of the powerful and the powerless affected by factors implicated in moral dilemmas (e.g., harm caused), as well as the aims and desires of power holders across different contexts.

Several factors contribute to deontological preference, such as the existence of harm to life in moral dilemmas (e.g., Greene et al., 2009; Loewenstein & Small, 2007; Moore et al., 2008; Slovic, 2007), intuitive processing (e.g., Bartels, 2008; Paxton et al., 2012) and the chronic goals that benefit from deontology (e.g., Brown & Treviño, 2006; Carroll, 1991; Ritov & Baron, 1999; Treviño, Brown, & Hartman, 2003; Treviño, Hartman, & Brown, 2000), in particular the motivation to maintain authority structures (Gramsci, 1971; Habermas, 1975; Lammers & Stapel, 2009; Sidanius & Pratto, 1993; Sidanius, Pratto, van Laar, & Levin, 2004). However, these factors do not always dominate. Here, we consider the factors that pull power holders towards deontology and those that do not in the association between power and moral judgments.

Firstly, the association between power and moral judgments has not been examined in organisational environments. Also, all of the experiments in Lammers

and Stapel's study (2009) targeted low-conflict dilemmas in the absence of harm to life, and it is still unknown whether this effect occurs or not in classical high-conflict dilemmas in which physical harm is presented (e.g., the footbridge dilemma). Section 1.4.1 discussed the aim of examining the current issue, while Section 1.4.2 proposed our assumption about how power influences moral judgments in dilemmas, in which harm to life is presented based on previous theory and studies; it also included culture as a consideration. We assumed that harm would diminish the differences in moral judgments of the powerful and the powerless.

Sections 1.4.3 and 1.4.4 sought to narrate the possible logic of cognitive processing style, goal focus and motivation to maintain authority as the possible mechanisms underlying the association between power and deontological moral judgments. We assumed that cognitive processing styles are often involved in power-related differences in moral judgments. Power holders, by default driven by intuitive processing style, prefer to make deontological judgments. In contrast, the default preferences for utilitarian judgments of powerless individuals are driven by their deliberative processing style. Meanwhile, consistent with the situated focus theory of power (Guinote, 2007a, 2010; Schmid et al., 2015), power holders distribute their cognitive resources according to the current active goals, so they should show more flexible and situation-specific moral judgments consistent with the focal goals. Powerless individuals show a tendency to deliberate more and their moral judgments are less affected by the current active goals. Powerful individuals are more strongly commit to the goals, leading to their subsequent goal-consistent

moral choices when compared with powerless individuals. The goal to maintain

authority is the chronic goal of power holders (Guinote, 2017) and there is a call for

deontological reasoning to maintain the current rule. However, when other priorities

with implications for moral judgments are active, power holders will follow these

priorities and their moral judgments may be shifted.

Both authority maintenance goals and the tendency to process information

intuitively should guide power holders to rely on deontology to make judgments.

However, in a context where utilitarian priorities are active, this may not be the case.

## 1.4 Present Research

The present research investigated how power affects moral judgments. This

section will briefly introduce the research strategies used in ten studies. Focusing on

moral judgments, these ten studies tested the association between power and

deontological/utilitarian moral judgments, and investigated the boundary conditions

and the role of cognitive processing style and goal focus. To establish the

replicability of past findings, in Chapter 2 we replicated the findings about the

association between power and moral judgments of Lammers and Stapel (2009), and

examined the effects of organisational power in real settings in China; also, harm to

life was taken into consideration. To establish how contextual factors pertain to the

moral dilemmas themselves, we then investigated the role of the presence of harm to

life in these dilemmas. Chapter 3 examined whether cognitive processing styles

explain the default preferences for moral judgments of the powerful and the

powerless by manipulating cognitive load and deliberative thinking. Chapter 5 examined how active goals (regulation- and person-centred goals) guide the moral judgments of power holders (vs. powerless individuals), and also assessed the motivation to maintain authority and the role of goal commitment. In combination, this research unravels biases in the moral judgments of power holders towards deontology, as well as context-dependent flexibility in moral judgments. These aims of the present study will be discussed below.

### 1.4.1 Is the Association Between Power and Moral Judgments Generalisable?

The first aim of the present research was to replicate the finding that show that owning (vs. lacking) power leads to more deontological (vs. utilitarian) moral judgments in different cultural contexts and in organisational environments. Based on an exact and a conceptual replication of Lammers and Stapel's (2009) study, it was hypothesised that power would trigger deontological reasoning in experimental and natural settings, as well as across different cultures.

Most studies have examined whether power increases or decreases morality (e.g., DeCelles et al., 2012; Gruenfeld et al., 2008; Lammers et al., 2010; Lammers et al., 2011). With the exception of the studies conducted in Lammer's lab (Fleischmann et al., 2017; Lammers & Stapel, 2009), no other studies focused on how power affects reasoning in such ethical issues. To our knowledge, no one has attempted to replicate Lammers and Stapel's study (2009).

It is valuable to study the link between power and moral judgments. Power,

as a social influencing factor, is neither positive nor negative. Understanding how power affects moral reasoning informs any theory about how power affects the mind. Also, studying how the powerful and the powerless attach importance to different moral theories facilitates an understanding of the two parties.

Two studies were conducted to address the issue of whether power affects moral judgments. Study 1 used the same methodology, procedure and materials that were employed in Lammers and Stapel's (2009) Study 3a; it was expected that this would replicate the effect of power on moral thinking style. Study 2 was a conceptual replication in an actual organisational power position to replicate and establish the ecological validity of the effect. Meanwhile, the effects of power on moral reasoning were investigated across different cultures (Study 1 in the United Kingdom [Western] and Study 2 in China [Eastern]) to establish the generalisability of the effects.

## 1.4.2 How Does the Presence of Harm Modify the Association Between Power and Moral Thinking Style?

A second aim of this project was to test whether harm in dilemmas modifies the association between power and moral judgments. Among the most important moral decisions that people in positions of authority can face are those that involve serious bodily harm or result in the death of a person; deciding whether to terminate life support, opt for the life of one person at the expense of another (such as a mother vs. a baby), withdrawing life-saving medical treatment from a patient or regulating

abortion are some examples (Greene et al., 2004; Koenigs et al., 2007). Previous findings (Lammers & Stapel, 2009) were based on everyday life situations without any actual harm to life.

A question that arises is whether power also affects moral reasoning in the presence of harm to life, and how power and the presence or absence of harm affect moral reasoning together, and the aim of this work is to address this question. The research also conducts exact and conceptual replications of Lammer and Stapel's (2009) studies to help establish the findings and obtain an integrated understanding of how power affects moral reasoning.

Based on the research that indicated high-conflict dilemmas involving harm to life elicit moral intuition and trigger deontology (Cushman, et al., 2012; Greene et al., 2004; Greene et al., 2001; Koenigs et al., 2007; Loewenstein & Small, 2007), we expected that dilemmas which involve harm to life will raise deontological preferences, especially among non-powerful individuals. Powerful individuals already have a propensity to engage in deontological reasoning, so they would be less affected when harm to life is presented. Consequently, the presence of physical harm may limit the influence of power on moral reasoning. Physically harming others should prompt deontological responses among powerless individuals, which would nullify power differences. Accordingly, power should only affect moral reasoning in innocuous situations when harm to life is absent. This perspective tempers the widespread negative concerns regarding the way in which power can shift moral reasoning.

Participants were presented with two versions of moral dilemmas, with one exception: the targets involved in the dilemmas varied. In one case, there was harm to human life, while in the other the harm was caused to inanimate objects. Human value is often assessed as a contrast between humans and inanimate objects; for example, research on objectification focuses on the extent to which people are treated in a similar manner as objects (Bartky, 1990). In particular, power holders often make decisions in the same vein when facing people or objects (Gruenfeld et al., 2008). Here, we compared how people who have or lack power respond to dilemmas involving harm to human life and harm to objects.

While the value of human life is pan-cultural, across cultures and the lifespan, people also agree that it is wrong to destroy objects – in particular valued property – as this violates others' ownership rights (Belk, 1991; Friedman & Ross, 2011; Rochat, 2011; Rossano, Rakoczy, & Tomasello, 2011; see also Millar, Turri, & Friedman, 2014). Reasoning about property is subject to intuitive and deliberative considerations. For instance, Millar et al. highlighted that, "Judgments about the acceptability of damaging owned property also demonstrate the conflict of deontology and utilitarianism as judgments about physically harming people". (2014, p. 80). Comparing the acceptability of actions when the target is a human or an object allows for the assessment of the role of harm to life.

**1.4.3 What Is the Role of Processing Style on the Links Between Power and Moral Judgments?**

This section examines the role of one mechanism: cognitive processing style. Lammers and Stapel (2009) proposed that rules, norms and principles are the main way for power holders to keep their power stabilised and exercise control over the powerless (see also Gramsci, 1971; Sidanius et al., 2004). However, how power affects moral judgments, as a complex social phenomenon, is involved with many possible influencing factors and mechanisms. Deontological and utilitarian moral judgments are driven by moral intuition and deliberation respectively (Feinberg, Willer, Antonenko, & John, 2012; Greene, 2009; Greene et al., 2008; Koenigs et al., 2007; Paxton et al., 2012; Small et al., 2007). In parallel, powerful individuals often engage in automatic cognition – especially in the social domain (Briñol et al., 2012; Briñol et al., 2007; See et al., 2011; Weick & Guinote, 2008) – and reduced power increases controlled social cognition, as they are vigilant to better predict the future and control outcomes (Fiske, 1993; see also Guinote, 2007a). Thus, it is valuable to investigate if processing style constitute the mechanism in the association between power and moral judgments.

Here, we expect that cognitive processing styles can be a contributing factor that helps explain past findings concerning the links between power and moral judgments; this employed a moderation-of-process design to examine the effect (Spencer, Zanna, & Fong, 2005). Two studies targeted the default processing of the powerless and the powerful respectively. The studies aimed to test whether preferences for the deontological moral judgments of power holders are driven by automatic and intuitive thinking, and the preferences for utilitarian moral judgments

of powerless individuals are driven by deliberative and systematic thinking.

Study 5 compared the moral judgments of high- and low-power participants under cognitive load and in-control conditions. As cognitive load consumes cognitive resources and leads to more use of intuition (Greene et al., 2008; Körner & Volk, 2014), we expected that, if the powerful use their intuition to think moral issues even under no-load situation, then cognitive load tasks should not have much (if any) effect on subsequent judgments. Conversely, cognitive load tasks would consume the cognitive resources of the powerless and then lead to their increasing preference for deontological judgments. Then, the difference between the powerful and the powerless would be reduced or vanished with cognitive load.

Study 6 tested whether induced deliberative thinking increases utilitarian judgments of the powerful in dilemmas. This study compared the moral judgments of high participants and their control counterparts in the conditions in which deliberative thinking was elicited versus in a control condition. As participants in the control group had already made more utilitarian moral judgments when compared to those in powerful condition, we expected that, in a control condition, the powerful would show higher preference for deontological moral thinking style than people without power. In addition, this difference would be reduced or vanished in the condition in which systematic thinking is elicited.

**1.4.4 Understanding the Link Between Power and Moral Judgments With the Situated Theory of Power – the Role of Goals Focus**

This section aims to explore the underlying mechanism of the link between power and moral judgments under the construct of the situated focus theory of power (Guinote, 2007a, b, c; see also Guinote, 2007).

Previous studies have not taken into consideration the dynamic and constructive character of judgment, and how power and socio-cognitive processes interact to predict moral judgment. The situated focus theory of power (Guinote, 2007a, b) proposes that power increases flexibility, as well as shifts in attention and behaviour, in line with primary goals, and the states of the person or opportunities in the environment. For instance, power holders are more guided by situational attitudes (Briñol et al., 2007) and goals driven by personal aims (Guinote, 2007c; Overbeck & Park 2006; Schmid et al., 2015), as well as opportunities (Guinote, 2008). Conversely, subordinates divide their attention between multiple aims and desires.

Consistent with these claims, Overbeck and Park (2006) found that power holders focus primarily on how to maximise the product in product-centred organisations, rather than upon the social environment (see also Guinote, 2008); however, this is not the case in person-centred organisations that emphasise social relations. In a similar vein, here we hypothesise that power holders' moral judgments are also guided by their primary goals, such as priorities stemming from power roles,

including the maintenance of power structures and the pursuit of the mission of the organisation.

With this in mind, we hypothesised that the organisational mission would shift the moral judgments of power holders, more so than that of powerless individuals, in ways that were instrumental for the pursuit of this mission; this occurs due to an enhanced goal commitment among power holders. In addition, we hypothesised that authority maintenance would be a chronic, overarching goal of power holders that would trigger rule-based preferences independently of other focal goals. The net effect of authority maintenance and other focal goals would depend on the congruency of their moral implications. When contexts benefit from rules and regulations, the desire for authority maintenance and moral thinking would be congruent in eliciting rule-based moral choices among power holders. When focal goals promote outcomes, the conflict stems from the desire for authority. Under these conditions, participants' preferences for rule-based judgments should decrease towards outcome-based judgments.

Four studies in Chapter 4 will investigate the influence of the contextual goals linked to the mission of the organisation, as well as the chronic goals linked to the maintenance of authority on the moral judgments of powerful and powerless individuals. Mechanisms linked to authority maintenance and goal commitment were also examined. In Studies 7, 9 and 10, participants are simulated with a leading role in an organisation, and the mission of the organisation was manipulated. The mission of the organisation was either person- or regulation-orientated. Person-centred

organisations benefit from outcome-based moral judgments, whereas focusing on regulations requires rule-based moral judgments. Study 8 examined the rule and product values in natural setting, while Study 9 examined the role of authority maintenance goals as the underlying motivation of power holders to rely on deontological moral thinking. In Study 10, goal commitment was assessed to find support for the proposition that the way in which power affects goal pursuit facilitates the impact of contextual goals on power holders' moral judgments. Across these studies upon the power and goal manipulations, participants were required to read moral dilemmas and make judgments.

**Chapter 2: The Replications And Extensions Of Previous Findings About Power**

**And Moral Judgments**

**2.1 Replication of Previous Findings**

**2.1.1 Overview**

The purpose of the present section is to discuss research designed to replicate

the association between power and moral thinking styles, as reported in a previous

study by Lammers and Stapel (2009); this was conducted to examine the robustness

of the effect. Here, we replicate this research to contribute to a much-needed

understanding of the links between power and moral reasoning in the organisational

environment.

Study 1 used the same methodology, procedure and materials employed in

Lammers and Stapel's (2009) Study 3a. Study 2 investigated participants in actual

organisational power positions to establish the ecological validity of the previous

findings, based on the paradigms used by Lammers and Stapel. In both studies, it

was expected that power would trigger deontological judgments and lack of power

would trigger utilitarian judgments.

One dilemma was used in every experiment (later studies are also consistent

with this design). We adopted this design to be in line with Lammers and Stapel's

(2009) research. One scenario/dilemma design is typically used in moral judgment

research (e.g., Millar et al., 2014; Valdesolo & DeSteno, 2006). Although many other

moral judgment studies included more than one dilemma in their experiment design

(e.g., Bartels, 2008; Greene et al., 2008), the fragile nature of the power manipulation restricted the multi-dilemma design. In a pilot study, we found that the effect of power manipulation would only last for very short time. Thus, we chose this one scenario design to guarantee that moral judgments were indeed affected by the manipulation of power. Meanwhile, as only one scenario was used in every study, we chose different dilemmas in different studies to guarantee that the effect did not only occur in one scenario.

Two novel features were included across a set of studies: participants in actual organisational power positions were investigated to establish the ecological validity of the findings on moral reasoning and power (Study 2); and the effects of power on moral reasoning were investigated across different cultures.

## 2.1.2 Study 1: Replication Study of Lammers and Stapel (2009; Study 3a)

The present study was designed to replicate the experimental findings described by Lammers and Stapel (2009). They found initial support for the hypothesis that power increases rely on deontological moral thinking. To this end, in their Study 3a, participants were asked to recall a past event in which they had power over someone or someone had power over them (Galinsky et al., 2003). Then, they were presented with a medical moral dilemma in which a doctor needed to decide whether to inform a patient of his incurable disease immediately, as was the rule in the hospital, or to inform the patient when he returned from his holiday. Participants needed to make their own judgments between the deontological or utilitarian choice.

Lammers and Stapel found that participants stimulated to experience high power tended to think that the doctor should follow the hospital's rule and tell the truth to the patient immediately, while those who were powerless were more inclined to think that the doctor should break the rule once and let the patient enjoy a happy holiday.

As mentioned in Chapter 1.4.1, studying the relationship between power and moral judgments is important, but empirical studies in this area are scarce. The current study also considered cultural differences. The original study by Lammers and Stapel (2009) was conducted in Germany, while the current study is conducted in the United Kingdom. We assumed that the powerful would rely more on deontological moral judgments, while the powerless would be more likely to use utilitarian moral judgments.

## Method

### Participants and Design

Ninety-nine participants (53 female, 46 male, $M_{age} = 32.61$, $SD_{age} = 10.40$) were recruited from a departmental pool, and were compensated one pound for participation. Sample sizes were calculated according to the effect size ($f = .27$) of the original study with a desired power level of $p = .80$ (Cohen, 1988), and a desired alpha error probability of $p = .05$. There were 53 participants in the high power condition and 46 participants in the low power condition. Participants were randomly assigned to one of two (Power: high vs. low) conditions. Data were collected via a Qualtrics questionnaire.

**Procedure**

Participants' power was manipulated first (Galinsky et al., 2003). They were asked to recall an episode, in which they had power over another individual or individuals, or someone else had power over them, and to write a narrative essay about what happened and how this made them feel (see Appendix 1).

After completion of the power priming task, participants rated three questions ($\alpha = .91$) on nine-point scales to check whether the manipulation was successful. The questions included: "I feel I can influence others." "I feel I have a great deal of power in the situation." "I am dominant in the situation."

Subsequently, participants were presented with a moral dilemma.

*This is a man who has a disease but does not know about it yet. He is being seen by a doctor (Dr. Lawrence). Although the man will not notice any problem or suffer any inconveniences from the disease, it is sure that he will die within 6 to 9 months. No cure is possible and nothing can be done to help the man. Accidentally, the girlfriend of the young man hears the diagnosis before her boyfriend. She begs Doctor Lawrence to wait with informing her friend. She explains that her friend always wanted to visit Africa and that they recently booked a trip together. Given that the man will die anyway, that no cure exists and that he will not suffer from it, the girlfriend insists that her boyfriend is better off if the doctor informs him after the holiday. The rules and regulations of the hospital however require doctors to inform patients as soon as possible (Lammers & Stapel, 2009, p. 283).*

At the end of the moral dilemma, participants were asked "What should Doctor Lawrence do?" Participants indicated on a nine-point scale from 1 (*Wait until*

*after the holiday; utilitarian option*) to 9 (*inform the patient directly; deontological option*). Finally, participants provided demographic information, were debriefed and thanked.

## Results

**Power Manipulation Check**. A one-way ANOVA analysis was carried out to check whether the power manipulation was successful. The results showed that participants in the high power condition ($M = 6.90$, $SD = 1.51$) felt more powerful, more in control over the situation, and more influential, relative to those in the low power condition ($M = 3.14$, $SD = 1.71$), $t(97) = 11.60$, $p < .001$, $d = 2.33$, 95%CI[3.12, 4.41].

**Moral Judgment.** An independent samples $t$-test showed that power significantly affected moral judgments, $t(97) = 2.197$, $p = 0.031$, $d = 0.44$, 95%CI[0.12, 2.41]. Participants in the powerful condition ($M = 6.96$, $SD = 2.48$) were more likely to follow the deontological moral choice, that is, were more likely to tell the patient about his illness immediately than those in the powerless condition ($M = 5.70$, $SD = 3.15$), who wanted to inform the patient after his holiday.

To keep consistent with Lammers and Stapel's (2009) study, ANOVA analysis was also used to test the effect of power on moral decision. There was a significant effect of power, $F(1, 97) = 4.99$, $p = .028$, $\eta^2_p = .049$, 95% CI$_{High}$ [6.20, 7.73] and 95% CI$_{Low}$ [4.87, 6.52].

## Discussion

This study successfully replicated Lammers and Stapel's (2009) Study 3a.

High-power individuals were more inclined to use deontological judgments, while low-power individuals were more likely to use utilitarian judgments.

Consistent with Lammers and Stapel (2009), the exact replication had a value approaching a medium-effect size with t-test (Cohen's $d = 0.44$). However, using ANOVA analysis consistent with the original study, the effect size here ($\eta^2_p = .049$) was much smaller than that in the original study ($\eta^2_p = .27$). This result was obtained when participants' power was manipulated (participants recalled a past event in which they had power or were powerless). Furthermore, participants were students with little experience of power. The ecological validity of the proposal that power affects moral judgments remains unknown. To address this limitation in the scope of power, Study 2 replicated the original study with one exception: power was not manipulated. Participants were employees in organisational settings whose power varied due to their positions in the organisation.

**Recalling past events task.** Regarding the recalling past events task to prime power, most participants recalled a past event in school or work, and some participants described a power relationship with family, boy/girlfriend or friend. In low power condition, teacher, manager/director, supervisor were frequently mentioned as the person who had power over participants. Employer/interviewer, student group leader, elder/powerful colleagues, parents, elder sister/brother and boy/girlfriend were also described as the power holders. In these episodes, the power holders controlled the participants. The power holders were described as controlling over participants' daily work/study, controlling the outcomes or resources that are

important for participants, holding the decision making right, and own the capacity to give rewards or punishments. Participants lost control over the environments, and were not able to decide by themselves. Most participants mentioned their negative feelings in powerless experiences. For example, one participant wrote an episode in which the interviewer hold the right to hire her or not; One essay mentioned that the manager should give him a raise but at last did not; Another participant wrote an event in which his teacher held the right to let him fail an exam, and this would affect his later university application. Another episode described the participants' relationship with his ex-girlfriend. His girlfriend held the dominant position to choose breaking up with him, when he was not willing to break up.

Here we also listed some typical essays. One participant's essay described an experience when the supervisor had power over him in research:

"At the lab, I had to do an experiment which involved a particular type of bacteria. I used that type, knowing that it would fit the best with a protein. My superior had proposed to change the type of bacteria but I wasn't in the same page as him. So he took his position to force me to change my experiment by changing the bacteria. I was so angry because it was my research, even though he was the principal investigator. I knew deep down that I was right but as he was my boss (and had more experience as well), I didn't have the choice. As this experience was really expensive, I couldn't perform the same experiment with both bacteria. I did perform the experiment without excitation, like a robot. At the end, I was so frustrated at the same time... Weird feelings..."

Another participant mainly described his feelings under the control of the supervisor:

"When I was working on an extensive mapping project my supervisor was always breathing down my neck. I had a full understanding of the project, how to do it correctly, and how to complete it start to finish. She would always check in with me every hour to see what I was up to and how far along I was to judge my progress. I knew I had plenty of time to get all the required work done. Whenever she would talk to me it seemed like she was trying to control every action I made. Everything had to be done her way. I felt as if I should just let her do the work for me since I had no say in the process of my work. No matter what suggestions I had she would always shut them down. I was mad when she was in the office knowing I was under strict supervision all the time. It really made me feel like I was being singled out by her. She left everyone else alone besides me and I made far less mistakes than my colleagues. Whenever I need a break she would always follow me to the break room and try to discuss how the project can be done more efficiently. She would call me when I was away from my desk or out of office to find all the reasons why I was not there and thought I was lying about it most of the time. Working with her was a very stressful situation. It seems liked she had all the control over me and I hated every moment of it."

In high power condition, participants usually described themselves as the persons who held the right to make decision, owned the capacity to influence others or control over the resources and outcomes of others. Some participants mentioned

the positive feelings that power brought for them, and some also though that power meant the responsibility. Their roles are various, including interviewer, football coach, group/project leader, director, the person who wrote reviews for other colleagues, teaching assistant who monitored exams or marked exam papers, and human resources assistant who were able to decide job application etc. Some participants also wrote episodes about their powerful experiences in the relationship with family, friends and boy/girlfriends. For example, one participant wrote a past experience in which she successfully persuaded and influenced all her friends, and let them follow her choices in the travel plan.

One student described her experience as a part-time teacher in a summer school programme:

"I worked part-time in a summer school programme last summer and I was taking care of a classroom filled with children aged between 6-8 years of age. There was this 7 year old child who was not being compliant and kept on screaming and misbehaving. He kept on running out of the classroom and he took his shoes off and started running around barefoot. I told him multiple times to put them on and get back in the classroom but he wouldn't listen; on the contrary, he just laughed and enjoyed getting the attention. I decided I had enough so I took his shoes inside the class and closed the door. I refused to give him anymore attention. As soon as he saw this, he came back in the classroom and demanded that he had his shoes back. I told him that if he wanted them he shouldn't have taken them off in the first place and that if he wanted them he would have to behave properly. He started screaming again

and threatened to jump out of the window. I told him that he was not the one in control in the class and that I will not be impressed by any of his threats. I told the other children to ignore him as well and so he felt powerless at that point because he didn't get the attention he wanted. He eventually calmed down and got his shoes back."

Another participant described his experience as a powerful person among his colleagues. He owned the right to evaluate his colleagues, and this would influence pay rise and promotion:

"I was in a position of power at work where I had to write reviews about my colleagues that would help determine whether or not they would get a pay rise or promotion or whether their pay would be docked. This made me feel powerful because I had control over how much money they would earn. Therefore they had to work extra hard to make sure they got good reviews. I like being in power because it makes me feel important however it is a lot of responsibility for one person, especially when determining the lives of others."

### 2.1.3 Study 2: Power and Moral Thinking Style in an Organisational Environment

Study 2 used the quasi-experiment design in which high- and low-power conditions were dependent on the participants' positions in the organisation. Lammers and Stapel's (2009) study was conducted in Germany, while our Study 1 was conducted in the United Kingdom. Study 2 was conducted in a natural setting

and in an Eastern culture (China) to establish the ecological validity and generalisability of the findings. Participants were employees of a governmental organisation or in one of three private companies. The study was conducted using a quasi-experimental design with a sample of leaders and subordinate employees. These two groups naturally differed on whether they managed subordinates in their organisations. Participants were guided to answer some professional questions to stimulate their hierarchical work experiences (see Appendix 2). The paradigm imitated the paradigm of a study which studied how business culture is related to dishonest behaviour (Cohn, Fehr, & Maréchal, 2014). In that study, participants were asked to answer questions related to their professions to stimulate their thinking about the business culture.

Meanwhile, as pointed out earlier in Sections 1.2.4 and 1.3.2, power and moral judgments are both affected by culture. Morality and power are granted with different contents in different cultures. People in Western cultures usually hold that rules and norms are absolute and universal when compared to those in Eastern cultures who hold more flexible and context-dependent ethical norms (Fu et al., 2007; Ralston et al., 1993; Smith & Hume, 2005). When compared to the West, those from an Eastern culture are more willing to follow authority, loyalty and purity rules (Fu et al., 2007; Graham et al., 2011). Meanwhile, power is treated as an opportunity for the pursuit of personal aims and desires in Western cultures, but it is regarded as a responsibility in Eastern cultures (Scholl, Ellemers, Sassenberg, & Scheepers, 2015; see also Guinote, 2017). Thus, it is necessary to examine if the same effect exists in

different cultures. However, we expected that the effect of culture would generally

influence all people in the specific culture, but that it would not modify the relative

difference between the powerful and powerless.

After the professional hierarchy activation, participants were subsequently

presented with a dilemma that was a conceptual replication of the dilemmas

employed in Study 1. We created a new low-conflict dilemma consistent with the

dilemma in Study 1 to guarantee that the effect did not only occur in one scenario.

We expected that the same association between power and moral thinking style

found in Study 1 would be generalised in an organisational context, and that the

effect would also occur in Eastern culture.

## Method

**Participants and Design**

Two-hundred and fifty-three volunteers from a government department and

three private sector organisations located in mainland China were invited to take

part in this study. 196 (97 female; 99 male) aged 21-59 years ($M = 34.34$, $SD= 8.40$)

completed the questionnaires (response rate was 77.47%). Sample sizes were

calculated for detecting a medium ($f = .25$) effect with a desired power level of $p$

$= .80$ (Cohen, 1988), and a desired alpha error probability of $p = .05$. A total of 128

participants were required. However, the study was based on real settings, and we

divided participants' power group according to their answers on corresponding

questions, so we were not able to precisely control the sample size of high and low

power participants separately before collecting data. Thus, we intentionally over

sampled in a single wave of data collection. Employee's length of service in the organisations ranged from one month to 35 years ($M = 94.66$ months, $SD = 101.85$ months). Participants held high-power ($N = 82$) or low-power ($N = 114$) in the organisation, based on the self-assessment of their hierarchical level (Weick & Guinote, 2008), and number of subordinates under supervision. Participants who managed subordinates and assessed their hierarchical level higher than the lowest level were considered as high power group, and those participants without subordinates were considered as low power group.

The majority of all participants (81.6%) reported having completed university (60.7%) or college education (20.9%), only 7.7% participants reported having completed secondary education, and 10.7% participants reported having completed Master and PhD education. Among participants who held high power, only 2.4% reported having completed secondary education, and all others received college (12.2%), university (72%) and Master (13.4%) education, whereas among those who held low power, 11.4% reported secondary education, and all others received college (27.2%), university (52.6%) and Master (8.8%) education.

Differences between high and low power groups and between different organisational were found regarding employees' age and length of service in the organisations. T-tests showed that participants who held power were significantly older ($t$ (194) = 9.22, $p < .001$, $d = 1.31$), and served in the organisations significantly longer ($t$ (194) = 8.56, $p < .001$, $d = 1.18$) than those who held low power. Participants in government were also significantly older ($t$ (194) = 6.24, $p$

< .001, $d = 0.62$), and worked significantly longer ($t$ (194) = 4.39, $p < .001$, $d = 0.86$) than those in private companies. These variables will be controlled for in the statistical analyses. Detailed demographic information about participants is given in Table 2.

Table 2

*Sample size, gender, age and work-time (month) of the sample in Study 2.*

| Group | n | Female | $M_{Age}$ (SD) | $M_{work-time}$ (SD) |
|---|---|---|---|---|
| Government | | | | |
| High power | 40 | 21 | 44.28 (6.46) | 223.35 (110.07) |
| Low power | 39 | 21 | 30.36 (6.48) | 65.10 (81.14) |
| Total | 79 | 42 | 37.41 (9.51) | 145.23 (124.92) |
| Companies | | | | |
| High power | 42 | 16 | 35.52 (6.69) | 94.52 (82.24) |
| Low power | 75 | 39 | 30.45 (6.29) | 41.46 (39.24) |
| Total | 117 | 55 | 32.27 (6.68) | 60.51 (63.45) |
| Total | | | | |
| High power | 82 | 37 | 39.79 (7.88) | 157.36 (116.00) |
| Low power | 114 | 60 | 30.42 (6.33) | 49.55 (57.87) |
| Total | 196 | 97 | 34.34 (8.40) | 94.66 (101.85) |

This study adapted the paradigm of Cohn et al. (2014). In their study, participants answered a series of questions about their professional background to stimulate their sense of business culture. We adapted the questions to stimulate participants' sense of power/powerlessness related to their job positions.

**Procedure**

Participants volunteered to take part in a short survey during work hours. First, participants were asked several questions about their professional background to remind them of how their work related to high/low power. Examples included

"please describe your work responsibilities when you supervise your subordinates"

(for high power group); "please describe your work responsibilities and work

contents under the supervision of your leader (for low power group, see Appendix

2). Participants were also asked to indicate their position in their organisation by

choosing one of seven horizontal line labeled with number from 1 to 7 (1 means the

highest position, and 7 means the lowest position) across a triangle which

represented the hierarchy in an organisation. We divided participants to high power

and low power group according to the positions that they indicated and whether

they had subordinates. Participants who both have subordinates and rated their

positions above "7" were divided into high power group.

Then participants read the moral dilemma and were asked: "If one employee

in your organisation fitted the following situation, what would you think?"

> *Li Ming is an employee in the company and he is also a father of a*
> *3-year old child. Because the work in his department is related to*
> *confidential information of the company, the company forbids*
> *employees working at home. However, this day there are no other*
> *family members who can take care of his child, and Li Ming has a*
> *deadline to catch up with. The work is urgent, so Li Ming decides to*
> *take his work home to do at the same time as taking care of his child.*

At the end of this dilemma, participants were asked to what extent it was

appropriate for Li Ming to take work home? They rated the action on a nine-point

scale from 1 (*definitely NOT; deontological judgment*) to 9 (*definitely YES;*

*utilitarian judgment*). Finally, participants provided demographic information.

**Results**

Age and work-time were controlled for these factors in the ANOVA that analysed the effect of power and organisational type on moral decision making because these factors differed across power groups (see Table 2). However, these two factors did not predict moral judgments themselves (age: $\beta$ = -.011, $t$ = -0.15, $p$ = .88, 95% CI [-.05, .04]; work-time: $\beta$ = .046, $t$ = 0.64, $p$ = .52; 95% CI [-.002, .005]).

A two (Power: high vs. low power) × two (Organisation type: government vs. company) ANOVA on the moral decision about whether Li Ming should take work home yielded a significant effect of power on moral judgment, $F(1,192)$ = 4.34, $p$ = .039, $\eta^2_p$ = .022. The effect of organisation type, $F(1,192)$ = 1.90, $p$ = .17, $\eta^2_p$ = .010, and the interaction effect of power and organisation type on moral judgments, $F(1,192)$ = 2.00, $p$ = .16, $\eta^2_p$ = .010, were not significant. As shown in Table 3, high power participants were more likely to think that Li Ming should follow the rule of the company and should not take work home than low power participants.

Table 3

*Mean scores and 95% Confidence Intervals of moral judgments of leaders and subordinates from different organisations in Study 2.*

| Organisation type | High power | | | Low power | | |
| --- | --- | --- | --- | --- | --- | --- |
| | n | M(SD) | 95% CI | n | M(SD) | 95% CI |
| Government | 40 | 3.55 (2.22) | [2.22, 4.20] | 39 | 4.64 (2.59) | [3.91, 5.51] |
| Companies | 42 | 3.19 (2.33) | [2.45, 3.95] | 75 | 3.47 (2.51) | [3.00, 4.22] |
| Total | 82 | 3.37 (2.27) | [2.58, 3.83] | 114 | 3.87 (2.59) | [3.63, 4.68] |

*Note.* High values mean utilitarian moral judgments.

Neither the product-oriented values ($\beta$ = .018, $t$ = 0.24, $p$ = .81, 95% CI

[-.20, .26]) nor the rule-oriented values ($\beta$ = .011, $t$ = 0.15, $p$ = .88, 95% CI

[-.21, .24]) of organisations were related to moral decision making. Personal need for

structure was also not related to moral judgments, $\beta$ = .044, $t$ = 0.61, $p$ = .54, 95%

CI[-.37, .70].

## Discussion

These results are consistent with the results of Study 1, showing that not only

temporarily induced power but also power roles in different organisational contexts

affect moral reasoning. Power holders were more inclined to rely on deontological

moral thinking to make judgments, while powerless individuals were likely to use

utilitarian moral thinking, replicating the findings obtained by Lammers and Stapel

(2009) in the organisational environment.

Furthermore, Study 2 supports the proposition that the association between

power and moral judgments is not affected by organisation type and their

idiosyncrasies. This finding contributes to establish the ecological validity and

generalisability of the effects of power on moral thinking style.


**2.1.4 Summary and Outlook**

Two studies replicated a previous finding showing that possession of power

triggers deontological moral reasoning (Lammers & Stapel, 2009). They were exact

and conceptual replications, in experimental and naturally occurring settings in

Europe and China. The results supported the hypothesis that power holders prefer to

engage in deontological reasoning.

Study 1 was a successful exact replication of the original study (Study 3a in Lammers and Stapel, 2009), showing that having power leads to a preference for deontological (rule-based) moral thinking style, and lacking power leads to a preference for utilitarian (outcome-based) moral thinking style. In Study 2 the original paradigm and procedure were administered in a sample of participants from organisational environments in China. Prior findings were again successfully replicated. This showed that the proposed link between power and moral thinking style can be generalized to natural settings, and different cultures.

Power is usually considered to be related to decreased moral level (e.g. Bargh et al., 1995; DeCelles et al., 2012; Kipnis, 1972), but much less is known about how power affects thinking styles in the moral domain. Here we replicated the association of power and moral thinking style again.

This chapter so far only replicated and discussed the association between power and moral reasoning in organisational environment and different cultures. In order to examine the generalizability of this finding, there are also many different contextual factors that influence moral reasoning. For example, the association between power and moral judgments has not been examined in classical dilemmas, such as trolley dilemma (Hauser et al., 2007; Thomson, 1970). In next step, we aimed to examine this finding in classical trolley/footbridge dilemma.

**2.2 How Harm Modifies the Association Between Power and Moral Thinking**

**Style**

**2.2.1 Overviews**

The purpose of the present section is to test how harm affects the relationship between power and moral thinking style. Lammers and Stapel's (2009) studies used moral dilemmas based on relatively innocuous everyday life situations (Moore et al., 2008; Petrinovich et al., 1993), such as whether a teacher should punish or reward a student, and whether a doctor should inform of patient his illness immediately. However, many classical moral dilemmas discuss the situations in which harm to life occurs, which is an important category in moral dilemmas. These dilemmas help people to think about the value of life (Foot, 1967; Greene & Haidt, 2002; Thomson, 1976, 1985); they are present when ethical issues about abortion, euthanasia and the distribution of scarce medical resources are considered, among others, which are highly salient for the vast majority of people.

**Dilemmas in the Presence or Absence of Harm to Life.** Imagine two scenarios a government official might find themselves in. First, a ship carrying 100 sailors stops in the official's city port, but those on the ship have a fatal contagious disease. The disease is 100% lethal if no treatment is received. However, by allowing these people to enter the city, they are likely to infect many more people and lead to more deaths. What decision should be made?

In the second scenario, a ship carrying 100 sailors is lost and visits the official's city, although it was planned that it should go to a port in a neighbouring country. Consequently, the ship does not have permission to enter the official's

country. However, the sailors are exhausted after the long journey and require a rest in the city. What decision should be made this time?

These two examples illustrate that moral dilemmas may vary a great deal depending on whether harm to life is involved. Power holders face decisions that involve serious harm or death, such as whether to terminate life support, opting for the life of one person at the expense of another (e.g., the smothering baby dilemma), withdrawing life-saving medical treatment from a patient or regulating abortion (Greene, Nystrom, Engell, Darley, & Cohen, 2004; Koenigs et al., 2007). These choices are important for both power holders and society.

These moral situations (as in the first example) require a choice concerning the killing or harming of other people to achieve more benefits. These dilemmas vividly cause a high-level experience of 'ME HURT YOU' (Greene & Haidt, 2002; Thomson, 1986) and trigger automatic responses, or the unconscious quick System 1 detailed in Kahneman's theory (2001).These moral situations are defined as 'high-conflict' dilemma (Koenigs et al., 2007). High-conflict dilemmas resolve the conflict between the rightness (deontology) and the overall good outcome (utilitarianism). The footbridge dilemma, as a classic example, describes that the observer is given an opportunity to intervene in a scenario where a trolley will kill five people working on a trainline unless the observer pushes an overweight man in front of the train to stop it (Thomson, 1976).

In contrast, other dilemmas (as in the second example) would not lead to serious harm to life whatever option is chosen. Decision makers only use their

rational reasoning to balance rule and benefits, and should not experience any extreme emotion or have their intuition aroused. Kahneman's (2011) systematic and logical System 2 takes effect here, and this type of dilemma is called a 'low-conflict' dilemma.

Dilemmas in which the solutions cause serious bodily harm or death to achieve greater good elicit strong aversive moral intuition and prompt deontological judgments (Greene et al., 2004; Koenigs et al., 2007; Moore et al., 2008). In contrast, dilemmas without harm, such as those used by Lammers and Stapel (2009), tend to evoke the decision maker's deliberation with an analysis of costs and benefits to oneself versus others (Petrinovich et al., 1993, see also Moore et al., 2008). Neural image studies also found that emotion-related brain areas showed greater activity when responding to high-conflict dilemmas with physical harm than other dilemmas (Greene & Haidt, 2002; Greene et al., 2004; Greene et al., 2001).

**Harm to life, Power and Moral judgments.** Lammers and Stapel's (2009) studies were based on relatively innocuous everyday life situations with a rule-based option and outcome-based option (Moore et al., 2008; Petrinovich et al., 1993). The rules in those dilemmas were mainly about regulations set by organisations or power holders. Meanwhile, all of these dilemmas do not discuss the role of physical harm in the classic *high-conflict* dilemmas (e.g., the footbridge dilemma) (Greene et al., 2004; Koenigs et al., 2007; Moore et al., 2008).

In fact, the daily life dilemmas with conflict between rules and outcomes in the study of Lammers and Stapel (2009) differ from high-conflict dilemmas, as they

resolve different conflicts. The 'rule' that the powerful maintained in the prior research is the principle or regulations set by the organisation, or the context the powerful individual is in. Conversely, deontology follows what is right and takes a certain universal value (Bentham, 1948; Darwall, 2003a, b; Gaus, 2001a; Kant, 1785; Scanlon, 1978). These two concepts can overlap with each other on occasion, while also differing at other times. Following the regulations of the organisation may violate deontology (and vice versa) when the regulations are set against the universal rightness; for example, the regulation against humanity set by the Nazis.

Thus, the question that arises is whether power affects moral reasoning in the same way during situations that involve physical harm to life. This is the case because moral judgments that involve the value of life are common, and the presence of physical harm affects moral judgments. Discovering these will be informative about the effect and scope of the influence of power on moral judgments.

One way to examine whether physical harm modifies the relationship between power and moral thinking style is to compare when the target is a human or an object in the dilemmas. Participants would be presented with the same dilemmas concerning the same issues with one exception: the targets involved in the dilemmas varied. In one case there was harm to human life, while in the other the harm was caused to inanimate objects. Human value is often assessed as a contrast between humans and inanimate objects; for example, research on objectification focuses on the extent to which people are treated in a similar manner as objects (Bartky, 1990). In particular, power holders often make decisions in the same vein when facing

people or objects (Gruenfeld et al., 2008). Here, we compared how people who have or lack power respond to dilemmas involving harm to human life and harm to objects.

**Ownership Rights.** While the value of human life is pan-cultural, across cultures and lifespans people also agree that it is wrong to destroy objects, in particular valued property, as this violates others' ownership rights (Belk, 1991; Friedman & Ross, 2011; Rochat, 2011; Rossano et al., 2011; see also Millar et al., 2014). Reasoning about property is subject to intuitive and deliberative considerations. For instance, Millar et al. stated that, "Judgments about the acceptability of damaging owned property also demonstrate the conflict of deontology and utilitarianism as judgments about physically harming people" (2014, p. 80). Therefore, comparing the acceptability of actions when the target is a human or an object allows for an assessment of the role's harm to life.

**Hypotheses.** We hypothesised that the presence of physical harm may give rise to a boundary effect on how power influences moral reasoning. When the target is an object, the dilemma has a similar structure as to the daily life dilemmas used by Lammers and Stapel (2009). That is, there is no physical harm and no higher disapproval intuitions are aroused. We reasoned that the relationship between power and moral reasoning should be consistent with the findings of Lammers and Stapel (2009). However, if presence of harm triggers more deontological reasoning, and power holders have ready-established deontological reasoning evident in dilemmas without harm, they should retain deontological reasoning in dilemmas with harm.

That is, people in high-power positions may only marginally change their judgments

as a function of harm in the dilemmas. However, as discussed, people who lack

power should shift towards deontology when serious harm is involved (Greene et al.,

2001; Hauser et al., 2007; Waldmann & Dieterich, 2007). Consequently, the presence

of physical harm may lead to a boundary effect on how power influences moral

reasoning. This hypothesis is reinforced by evidence showing that power decreases

distress and compassion in the presence of another's suffering (van Kleef et al.,

2008), decreases perspective taking (Galinsky et al., 2008) and attention to

individuating information of other people (Fiske, 1993; Guinote & Philips, 2010; for

a review see Guinote, 2017).

To summarise, Lammers and Stapel's findings (2009) should be replicated in

dilemmas that do not involve harm to life, but not in those involving harm.

Physically harming others should prompt deontological responses among powerless

individuals, which would nullify power differences.


**2.2.2 Study 3: Moral Reasoning in the Presence of Harm**

Study 3 had three aims. First, the study investigated whether the presence of

harm to life modifies how powerful and powerless people reasoning regarding moral

issues. To investigate whether power affects moral reasoning when harm is present,

Study 3 involved a conceptual replication of Lammers and Stapel (2009) with the

inclusion of a life-harming dilemma. Also, the study aimed to conceptually replicate

the previously found link between power and deontological moral reasoning, using a

classical dilemma (footbridge dilemma). Second, no control condition was included in the previous study of Lammers and Stapel (2009), so it is not known whether power or powerlessness affects moral reasoning. To explore this issue, a control condition was included in the present study. Third, we also assessed the cognitive processing style in this study, as responses to dilemmas with/without harm to life were usually linked with intuitive/deliberative thinking (Greene, 2009; Greene et al., 2008; Greene et al., 2001).

Participants were assigned to a powerful, control or powerless condition and completed a harm or no-harm version of a footbridge dilemma (Hauser et al., 2007). Power was manipulated using a manager/employee simulation (Guinote, 2008). Given that power triggers deontological reasoning in dilemmas when no harm is caused, and dilemmas involving harm also trigger deontological reasoning (Greene et al., 2001; Hauser et al., 2007), the judgments of power holders may only be marginally affected by harm. In contrast, powerless individuals would decrease their utilitarian moral judgments in dilemmas involving harm to life when compared with those without harm.

**Method**

**Participants and design**

Two-hundred and fourteen students (140 female, 74 male, $M_{age} = 25.09$, $SD_{age} = 9.55$) were recruited from the departmental pool. All participants received one and half pounds compensation for participation. Sample sizes (n = 206) were calculated for detecting a medium ($f = .25$) effect with a desired power level of $p = .90$ (Cohen,

1988), and a desired alpha error probability of $p=.05$, based on Lammers and Stapel

(2009). The experiment involved a three (Power: high power, low power and control

group) × two (Dilemma type: harm vs. no harm) between participants design. The

main research aim was to determine whether there are differences between

participants in high power and low power conditions as per the predictions, the

control group was also compared with the experimental groups to check for any

effects specific to the treatment groups. Assignment of participants to groups was

random. The experiment was based on the existing online survey development

environment Qualtrics.

**Materials**

The classic high conflict footbridge moral dilemma was used (Hauser et al.,

2007, p. 6). This study aimed to examine whether harm to life modifies the

relationship between power and moral thinking style. The effective way to test the

effect of harm is to compare the dilemmas with different targets, i.e. man vs. object

(Millar, Turri, & Friedman, 2014), as only harm to life arouses moral intuition

(Greene & Haidt, 2002; Thomson, 1986). Millar et al (2014) adapted footbridge

dilemma and trolley dilemma to the dilemmas about the damage to inanimate objects

to discuss about ownership rights. Research on objectification focuses on the extent

to which people are treated in a similar manner as objects (Bartky, 1990). In order to

match harm and no harm versions, we chose dilemmas with harm to life in which we

adapted the harm target from life to inanimate object in the no harm version.

Footbridge dilemma is a typical example of dilemmas with harm to life, and is

commonly used in moral judgments studies, so we chose this dilemma here.

In the story (harm condition), the protagonist needed to choose whether to push a man down from a footbridge onto a trolley in order to save five persons on the train track. In the no-harm version, the victim was an inanimate object – a sculpture - and the five persons were substituted by five sculptures. A pilot study indicated that this manipulation affected the deontological (vs. utilitarian) judgments made by participants.

The harm to life condition was as follows (see Figure 3):

*Frank is on a footbridge over the train tracks. He sees a train approaching the bridge out of control. There are five people on the track. Frank sees that the driver of the train slammed on the brakes, but the brakes failed. The train is now rushing toward the five men. It is moving so fast that they will not be able to get off the track in time. Frank knows that the only way to stop this out of control trolley is to drop a very heavy weight into its path. But the only available, sufficiently heavy weight is one large man, also watching the train from the footbridge. Frank can shove the man onto the track in the path of the trolley, preventing the train from killing the five men, but killing the one man; or he can refrain from doing this, letting the five die. (Hauser et al., 2007, p.6)*

The no harm condition was as follows:

*Tom is on a footbridge over the train tracks. He sees a train approaching the bridge out of control. There are five sculptures (belonging to unknown someone) on the track. Tom sees that the driver of the train slammed on the brakes, but the brakes failed. The train is*

*now rushing towards the five sculptures. Tom knows that the only way to stop this out of control train is to drop a very heavy weight into its path. The only available, sufficiently heavy weight is another sculpture. However, this sculpture belongs to a passer-by. He went to the toilet and asked Tom to help him to look after his sculpture. Tom can push the sculpture onto the track in the path of the train, preventing the train from destroying the five sculptures, but destroying the one sculpture; or he can refrain from doing this, letting the five sculptures be destroyed.*
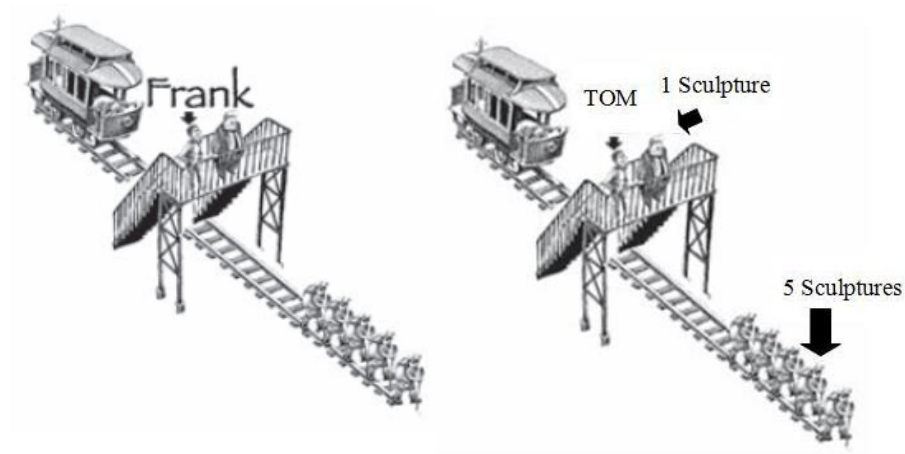


*Figure 3.* Classical footbridge dilemma (harm to life condition) and adapted dilemma (no harm condition).

**Procedure**

After participants volunteered to take part, they were linked to the Qualtrics survey. To manipulate power, participants first completed a written role simulation task (Guinote, 2008; see Appendix 3). They were asked to imagine themselves in an organisational role as vividly as possible, and to describe what a typical day in their life would be if they were that person. Participants read information about the organisation and their roles. Participants in the high power condition read that they

would be in the role of a managing director in a marketing organisation, while those in the low power condition were assigned an employee's position in the same marketing organisation. Participants used around 10 minutes to plan a workday. Participants in the control group did not complete the role simulation task, but made moral decisions directly. The experimenter was unaware of participants' power conditions.

Upon completion, participants in the high and low power conditions completed the same manipulation check as in Study 1 ($\alpha = .957$). Subsequently they took part in what was, allegedly, a separate study and they were presented with one of the two types of moral dilemmas. They were invited to indicate whether the suggested action was morally acceptable or not on a nine-point scale from 1 (*definitely NOT; deontological option*) to 9 (*definitely YES; utilitarian option*).

Previous research has shown associations between intuition and deontological moral thinking style, and between deliberation and utilitarianism (e.g. Cushman et al., 2006; Feinberg et al., 2012; Greene et al., 2008). In order to measure whether processing style explains the link between power and deontological judgments, participants' processing style was then assessed using four nine-point scales varying from 1 (totally disagree) to 9 (totally agree) items (e.g. I used my gut feeling to make the judgment; see Appendix 4). Finally, participants provided demographic data, checked for suspicions and debriefed.

Besides, previous research showed that long-term processing tendencies (Bartels, 2008; Paxton, Ungar, & Greene, 2012), emotion (Greene et al., 2001;

Valdesolo & DeSteno, 2006) and rule thinking (Lammers & Stapel, 2009) are related to moral judgments (see Appendix 4). In order to measure if these variables also influenced moral judgments, this study also measured them. Five nine-point scales were used to measure participants' processing tendencies in daily life (e.g. I don't like to have to do a lot of thinking). Also, angry, sad, disgusted, disappointed, fear and empathy were measured by nine-point scale from 1 (*not at all*) to 9 (*very much*). Rule thinking was assessed using four nine-point scales varying from 1 (*totally disagree*) to 9 (*totally agree*) items (e.g. Generally, I find it important that everyone is treated according to the rules).

### Results

**Manipulation Check.** A 2 (Power) × 2 (Harm) ANOVA showed that the effect of power on the power manipulation check questions was significant, $F(1,136) = 116.58$, $p < .001$, $\eta^2_p = .462$, 95% $CI_{High}$ [7.08, 7.92] and 95% $CI_{Low}$ [3.81, 4.66]. The effect of dilemma type was not significant, $F(1,136) = 1.02$, $p = .32$, and the interaction effect of power and dilemma was not significant, $F(1,136) = 0.12$, $p = .73$, $\eta^2_p = .001$. Participants in the high power condition ($M = 7.50$, $SD = 1.13$) experienced higher sense of power (i.e. more in control over the situation, and more influential), relative to those in the low power condition ($M = 4.23$, $SD = 2.26$). Harm did not affect participants' power experiences.

**Moral Judgment.** As the orginal study focused on differences between high power and low power individuals, this study firstly compared moral judgments of participants in the powerful and powerless conditions. Then a further analysis

included control group. A 2 (Power) × 2 (Harm) ANOVA was conducted on the

permissibility of pushing the one man/sculpture onto the track in the footbridge

dilemma. This yielded a significant effect of harm to life, $F(1,136) = 17.52$, $p < .001$,

$\eta^2_p = .114$. The effect of power was not significant, $F(1,136) = 1.06$, $p = .31$, $\eta^2_p$

$= .008$. There was, however, a significant interaction between power and harm on

moral judgment, $F(1,136) = 4.52$, $p = .035$, $\eta^2_p = .032$. As expected, participants were

more inclined to reject pushing the man ($M=3.00$, $SD=2.39$) than the sculpture

($M=4.74$, $SD=2.60$), that is, they preferred deontological judgments in the presence

of harm to life than in the absence of harm to life.

After including control group into analysis, 3 (Power) × 2 (Dilemma type)

ANOVA analysis showed that the effect of dilemma type is significant, $F(1,208) =$

$133.687$, $p < 0.001$, $\eta^2_p = .10$. The effect of power was not significant, $F(2,208) =$

$1.014$, $p = 0.365$, $\eta^2_p = .006$, but there was a marginal interaction effect of power

and harm on moral judgment, $F(2,208) = 2.546$，$p = 0.081$, $\eta^2_p = .025$. People were

more unwilling to harm the human ($M = 3.20$, $SD = 2.37$) than the sculpture ($M =$

$4.78$, $SD = 2.54$).

It can be seen from the Table 4 that participants in the high power condition

had the same level of deontological orientation regardless of whether the dilemmas

involved harm to life or not. They tended not to push the one man/sculpture from the

bridge, $t(68) = -1.44$, $p = .16$, $d = 0.35$, 95%CI[-2.05, 0.33]. In contrast participants

in both the low power group, $t(68) = -4.52$, $p < .001$, $d = 0.53$, 95%CI[-3.79, -1.47],

and the control group, $t(72) = -2.26$, $p = .027$, $d = 1.08$, 95%CI[-2.37, -0.15], were

more inclined to choose to push the sculpture to save five popele (more utilitarian moral choice) in the dilemma without harm than to push the man in the dilemma with physical harm. The one-way ANOVA analysis that tested the effect of power on moral judgment in the adapted sculpture footbridge dilemma showed a marginal effect, $F (1, 105) = 2.42$, $p = .094$, $\eta^2_p = .044$. Increased power predicted more deontological moral judgments in the sculpture dilemma. The ANOVA analysis testing the effect of power on moral judgment in the classical footbridge dilemma was insignificant, $F (1, 103) = 1.05$, $p = .35$, $\eta^2_p = .020$.

Table 4

*Mean scores [and 95% Confidence Intervals] and t-test analyses of moral judgments of participants in different experimental groups in Study 3.*

| Power condition | Harm | | No harm | | | | |
| | n | M (SD) 95% CI | n | M (SD) 95% CI | t | df | p |
| --- | --- | --- | --- | --- | --- | --- | --- |
| High power | 35 | 3.23 (2.39) [2.39, 4.07] | 35 | 4.09 (2.59) [3.25, 4.93] | -1.44 | 68 | .16 |
| Control group | 36 | 3.58 (2.31) [2.79, 4.38] | 38 | 4.84 (2.47) [4.07, 5.62] | -2.26 | 72 | <.05 |
| Low power | 35 | 2.77 (2.40) [1.95, 3.59] | 35 | 5.40 (2.46) [4.58, 6.22] | -4.52 | 68 | <.001 |

*Note.* High values mean utilitarian moral judgments.

**Cognitive Processing Style.** Consistent with previous theories and studies (Loewenstein & Small, 2007; Greene, 2009; Greene et al., 2004), the ANOVA analysis of the effect of power and dilemma type on processing style showed that dilemma type significantly affected processing style, $F (1,208) = 6.71$, $p < .05$, $\eta^2_p$

= .031, 95% $CI_{Man}$ [5.01, 5.58] and 95% $CI_{Sculpture}$ [4.48, 5.05]. However, there was

no effect of power on processing style, $F$ (1,208) = 0.88, $p$ = .42, $\eta^2_p$ = .008, and no

significant interaction between power and dilemma type on processing style, $F$

(1,208) = 1.14, $p$ = .32, $\eta^2_p$ = .011. People relied more on intuition to make

judgments when harm to people was present ($M$ = 5.29, $SD$ = 1.49) than when harm

was caused to sculptures ($M$ = 4.77, $SD$ = 1.52). We also analysed whether dilemma

types affected processing style across the power conditions. Dilemma type did not

change the processing style ($M_{Man}$ = 5.38, $SD_{Man}$ = 1.69; $M_{Sculpture}$ = 4.85, $SD_{Sculpture}$ =

1.60) of participants in the powerful condition, $t$ (68) = 1.35, $p$ = .18, $d$ = 0.32, 95%

CI[-0.26, 1.31], but the dilemma involving harm to life increased the intuitive

processing style of participants in the powerless condition, $t$ (68) = 2.41, $p$ = .019, $d$

= 0.57, 95% CI[0.16, 1.67]. Participants in the powerless condition used more

intuitive processing in the dilemmas involving harm to life ($M$ = 5.29, $SD$ = 1.55)

than the dilemma involving harm to objects ($M$ = 4.38, $SD$ = 1.62). The results

showed that the dilemma with harm to life indeed increased intuitive thinking among

the powerless, but there was no significant relationship between power and

processing style.

**Other Variables.** No evidences in data analysis showed that long-term

processing tendencies, $\beta$ = -.01, $t$ = -0.11, $p$ = .91, 95% CI [-.27, .24], rule thinking, $\beta$

= .063, $t$ = 0.92, $p$ = .36, 95% CI [-.14, .39], and the average score of emotions, $\beta$ =

-.11, $t$ = -1.54, $p$ = .12, 95% CI [-.33, .04], can explain the relationship between

power and moral judgments.

**Discussion**

These results support the notion that people in powerful conditions rely upon deontological moral reasoning. Similar to prior research (Lammers & Stapel, 2009), participants in powerful conditions engaged in deontological reasoning. This occurred irrespective of whether there was harm caused to other people. In contrast, participants in the powerless and control conditions were responsive to the presence of harm. Powerless participants preferred more utilitarian options when compared to powerful participants in the absence of harm to life. The same was true for participants in the control condition. However, when facing dilemmas involving harm, people's preferences for utilitarian options decreased in both participant groups. Therefore, no power differences on moral reasoning were obtained for the dilemma involving harm to life. Finally, the addition of a control condition revealed that the effects reported previously derive from having power, rather than from the lack of power.

**Role simulation task.** Here we described participants' responses in role simulation task. In high power condition, participants usually wrote that they would distribute the tasks to employee, organise meetings, and check employees' work in a typical work day of a manager. Some participants may also mention some other work not related to manage employees, such as meeting clients.

For example, one participant wrote:

"Early in the day I would review the ongoing projects and my employee's assigned work. I would check employees' work, see how their progress on the

particular task is, and estimate how long it would take etc. Meeting clients would probably be quite and I'd invite them into my office where we could discuss what kind of ideas they have for their marketing materials / campaign, whether we'd be able to meet their demands, the amount of money we require and so on. I would have some employees create mock - adverts that could give the clients an idea about the type of work we could produce for them, and so we could get some feedback to generate further discussion. I'd have to review my employee's proposed work. If they had completed a poster I would look at it to see if it fits the client's proposal and my own expectations."

Another typical answer was as follow:

"I would start the day by checking emails to find out what products need to be promoted in the week ahead. Then I would call the employees into a meeting to talk about the different products that would need to be promoted. I would ask the employees to think about innovative ways to promote the products, ensuring that their promotions are appealing to the public but also cost effective. Then i would review their ideas and distribute work according to which proposals i think would be most effective. I would try and make sure that the employees feel comfortable being able to approach me with any questions or ideas they had. In the afternoon I would imagine i'd be busy in various meetings with different departments and with organisations that had approached our business to promote their products."

In low power condition, the typical essays would mention asking manager what tasks to do / receiving the task from the manager, completing the task assigned,

discussing and working with colleagues, and reporting the progresses to the manager.

For example, one participant wrote:

"The morning would start with a meeting with the manager where he or she would give the tasks for the day. Then there would be a short discussion with a part of the team working on the same project and deciding which approach would be best in this case. After that there would be a few hours of completing that task, for example doing research about a market by the computer. After that I would make a document with bullet points of my key findings and send it to the manager to be confirmed before sending it to the client. I imagine the job being quite straight forward and boring because there would not be much room for making own decisions. However, I think it could still be interesting at times because you would learn new things and any discussion sessions with colleagues allowing a bit of brainstorming would be nice. In the middle of the day I would go for lunch with someone of my 20 colleagues. During lunch we would chat a bit about the projects we are working on right now, gossip about our clients and talk about personal stuff. Working in a small team is nice because you have the chance to get to know everyone."

And another example was as follow:

"When I get to work in the morning I first go to the manager to find out what my tasks for the day are. Once I am briefed on our new client I do some research on them before contacting them and discussing what they hope our work achieves for them. I then meet up with my team to discuss with them the information I have

gathered so far about the client and we come up with a strategy that would help them achieve their goals. Once we have decided on our strategy I have a meeting with the manager in which we pitch our ideas to him and he tells us what he thinks of our ideas and gives us feedback. Anything he wants changed I then plan to change the next day. It can sometimes be stressful if I have a lot to change but because he is the manager I have to do as he says. I leave the office once I have done as much as I can for the day and I try not to be the first one of my team to leave."

### 2.2.3 Study 4: Moral Reasoning in the Presence of Impersonal Harm

Study 3 provided support for the notion that power increases the preference for deontology, and showed a boundary condition for power differences as a function of the type of dilemma. Study 4 aimed to replicate these findings with a different, commonly used dilemma: the trolley dilemma (Thomson, 1986).

The trolley dilemma is also a high-conflict dilemma in which participants choose whether to throw a switch to change the direction of a train to kill one person and save five; it differs from the footbridge dilemma in terms of the personal involvement of the actor (Foot, 1967; Thomson, 1986). High-conflict dilemmas can be classified into two categories: personal dilemmas and impersonal dilemmas. In personal dilemmas, such as the footbridge dilemma, the actor directly hurts another person(s) by touching them (i.e., the actor pushes the victim down by hand) in order to achieve the greater benefit. In an impersonal dilemma, such as the trolley dilemma, the victims are not hurt directly by the actor, but by an agent (the actor throws the

switch to change the direction of the trolley) (Moore et al., 2008; Royzman & Baron, 2002). Research suggests that personal harm to life elicits the use of intuition, thereby enhancing deontological reasoning when compared to dilemmas involving impersonal hurt (Greene & Haidt, 2002; Greene et al., 2004; Greene et al., 2001). Therefore, it is possible that the insignificant results in Study 3 – when harm was present – were driven by personal involvement, rather than harm to life per se. To rule out this possibility, an impersonal dilemma (the trolley dilemma) was used in Study 4.

## Method

### Participants and Design

One-hundred and forty-five students (76 female, 69 male, $M_{age}$ = 25.03, $SD_{age}$ = 6.25) were recruited from various survey websites (Departmental participants pool, "Call for participants", and "Prolific Academic"). All participants were paid £1.50. Similarly to the previous studies, sample sizes were calculated according to the effect size ($f$ = .27) of Study 3a in Lammers and Stapel's research (2009) with a desired power level of $p$ = .90 (Cohen, 1988), and a desired alpha error probability of $p$ = .05. Participants were randomly assigned to one of four conditions determined by a two (Power: high vs. low) × two (Dilemma type: impersonal harm vs. no harm) between participants design.

### Materials

The trolley dilemma was chosen as the most common impersonal high conflict dilemma (as Figure 4, see also Hauser et al., 2007).

The dilemma read as follows:

*Ned is walking near the train tracks when he notices a train approaching out of control. Up ahead on the track are five people/sculptures (owner not specified). Ned sees that the driver of the train slammed on the brakes, but the brakes fail. The train is now rushing toward the five men/sculptures. It is moving so fast that they will not be able to get off the track in time. Ned is standing next to a switch, which he can throw, that will temporarily turn the train onto a side track out of use. There is a heavy object on the side track. If the train hits the object, the object will stop the train, thereby saving the five men/sculptures on the main track. Unfortunately, the heavy object is another man/sculpture, standing on the side track with his back turned* (p. 6).

Half of the participants read the harm to life version: the man is blind and the person who takes care of him went to the toilet, and asked Ned's help to look after the man for a little while. In this case Ned can throw the switch, preventing the train from killing the five men, but killing the one man. Or he can refrain from doing this, letting the five die.

The remaining participants read the no harm version: In this version, the sculpture belongs to a passer-by who went to the toilet, put his sculpture on the unused side track, and asked Ned to help him to look after his sculpture for a little while. Now, Ned can throw the switch, preventing the train from destroying the five

sculptures, but destroying the one sculpture. Alternatively, he can refrain from doing

this, leaving the five items to be destroyed.
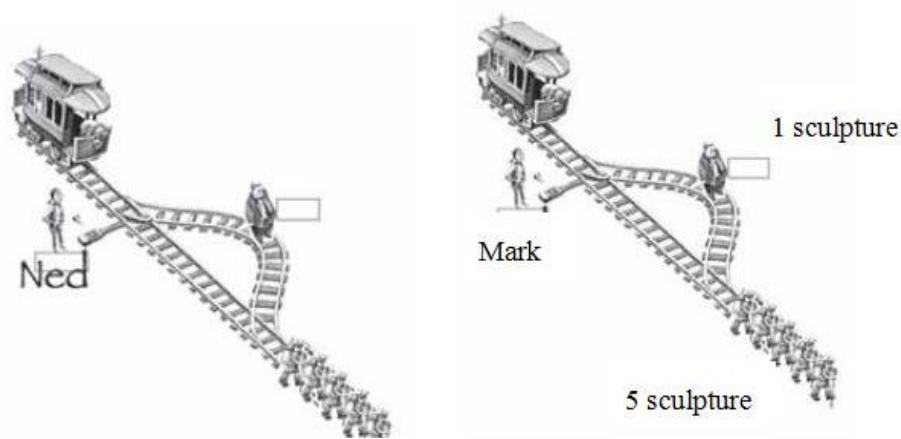


*Figure 4*. Trolley dilemma (impersonal harm condition) (Hauser et al., 2007, p. 6)

and adapted trolley dilemma (no harm condition) in Study 4.

**Procedure**

Once participants agreed to take part, they were linked to a Qualtrics survey.

Power was manipulated by asking participants to recall an episode as Study 1, in

which they had power over another individual or individuals, or someone else had

power over them. They wrote a narrative paragraph about what happened and how

this made them feel, following Galinsky et al. (2003). After completing the power

manipulation, participants completed the manipulation check, which was the same as

in Study 1 ($\alpha = .942$). Then participants read one of the two types of moral dilemma.

At the end they were asked "To what extent is it appropriate for you to throw the

switch?" (nine-point scale from 1, *definitely NOT; deontological option*, to 9,

*definitely YES; utilitarian option*). Processing style during moral judgments was also

assessed using six nine-point scales varying from 1 (*totally disagree*) to 9 (*totally agree*) items. Also, participants were asked to write some sentences about what they thought during making judgments. Finally, participants provided demographic data, were checked for suspicion about the experiment and were debriefed.

## Results

First, it was checked whether the power manipulation was successful. A 2 (Power) × 2 (Harm) ANOVA analysis showed that the effect of power was significant, $F$ (1, 141) = 234.04, $p < .001$, $\eta^2_p = 0.62$, 95% $CI_{High}$ [6.43, 7.19] and 95% $CI_{Low}$ [2.35, 3.08], while neither the effect of harm, $F$ (1,141) = 0.18, $p = .67$, $\eta^2_p = .001$, nor the interaction effect, $F$ (1,141) = 0.99, $p = .32$, $\eta^2_p = .007$, were significant. Participants in the high power condition (*M*= 6.81, *SD*= 1.56) experienced higher sense of power, with more control over the situation, and more influence, relative to those in the low power condition ($M = 2.72$, $SD = 1.64$). Harm did not affect participants' power experiences.

A 2 (Power) × 2 (Harm) ANOVA tested the acceptability of throwing the switch in the trolley dilemma. This yielded the expected significant effect of harm, $F(1,141) = 11.61$, $p = .001$, $\eta^2_p = .076$. The effect of power was not significant, $F(1,141) = 1.54$, $p = .22$, $\eta^2_p = .011$. However, there was a significant interaction between power and dilemma type on moral judgment, $F(1,141) = 4.37$, $p = .038$, $\eta^2_p = .030$. People were more likely not to throw the switch to kill one and save five (i.e., to make deontological moral judgments) in the presence of impersonal harm compared to the absence of harm (see Table 5). In the dilemma without harm to life

the judgments of participants in the powerful condition were more likely to make deontological judgments than those in the powerless condition, $t(68) = -2.70$, $p = .009$, $d = 0.64$, 95%CI[-2.14, -0.32]. However, in the dilemma with impersonal harm the judgments of participants in the powerful condition and those in the powerless condition did not differ significantly, $t(73) = 0.55$, $p = .58$, $d = 0.13$, 95%CI[-0.83,1.45]. Participants in the high power condition showed similar preferences when responding to both types of dilemmas with and without impersonal harm, $t(68) = 0.87$, $p= .39$, $d = 0.21$, 95%CI[-0.62, 1.60], whilst participants in the low power condition were more likely to make deontological judgments in the presence of physical harm than in the absence of harm, $t(73) = 4.15$, $p < .001$, $d = 0.97$, 95%CI[1.05, 3.00].

Table 5

*Mean scores and 95% Confidence Intervals of moral judgments of participants in different experimental groups in Study 4.*

| Power condition | Harm | | | No harm | | |
|---|---|---|---|---|---|---|
| | n | M(SD) | 95% CI | n | M(SD) | 95% CI |
| High power | 35 | 5.11 (2.55) | [4.37, 5.86] | 40 | 5.60 (2.08) | [4.86, 6.34] |
| Low power | 35 | 4.80 (2.40) | [4.11, 5.49] | 35 | 6.83 (1.72) | [6.09, 7.57] |
| Total | 70 | 4.95 (2.46) | [4.45, 5.46] | 75 | 6.21 (1.99) | [5.69, 6.74] |

*Note.* High values mean utilitarian moral judgments.

**Cognitive Processing Style.** The ANOVA analysis of power and dilemma type on processing style was consistent with Study 3. The effect of dilemma type was marginally significant, $F(1,141) = 3.74$, $p = .055$, $\eta^2_p = .026$. The effect of power,

$F(1,141) = 1.31$, $p = .25$, $\eta^2_p = .009$, and the interaction of power and dilemma type, $F(1,141) = 0.007$, $p = .93$, $\eta^2_p < .000$, were not significant. People relied more on intuition to make judgments when the targets were men and harm was presented ($M = 5.02$, $SD = 1.07$) than when the targets were sculptures ($M = 4.62$, $SD = 1.44$).

**Discussion**

Study 4 included the 'directness' or 'personal-ness' of harming in dilemmas into consideration, which considers physical contact between an agent and victim (Cushman et al., 2006; Greene et al., 2009). Study 3 used a personal harm dilemma in which the agent's muscle generates the action of harming (pushing the man/sculpture), and Study 4 employed impersonal harm dilemma in which the machine (the switch) completes the harm and no personal contact exists. The difference between personal contact can differ depending on the level of intuition arousal and can lead to different moral judgments (Greene, 2009; Greene et al., 2009).

The results support the view that similar boundary conditions, as seen in Study 3, occur whether there is personal contact during the harm or not. The preference for the utilitarian decisions of low-power individuals only occurred in the ethical issues that did not involve harm to the life of others. The different moral thinking styles of participants in the high-power and low-power conditions vanished when faced with an impersonal high-conflict dilemma involving harm to life.

Given that in both personal and impersonal high-conflict dilemmas the presence of physical harm elicited more deontological moral judgments of the

powerless when compared to when harm was absent, it is concluded that the core factor affecting the different judgments of powerless individuals concerned the presence of harming others' life to achieve a greater benefit. This finding is also consistent with Haidt's moral foundation theory (Graham et al., 2009; Graham et al., 2011), which treated harm/care as one of the most important and basic foundations of human morals related to human's intuition.

### 2.2.4 Summary and Outlook

Two studies examined how the presence of physical harm in moral dilemmas modified the association between power and moral reasoning. The research extended past work by considering the presence (or absence) of harm to life.

Contrary to Lammers and Stapel's (2009) argument, power does not always affect moral reasoning. In Studies 3 and 4, when harm to life was present, power did not affect moral decisions. When harm was presented, both powerful and powerless people preferred deontological moral thinking. Thus, when facing important decisions concerning the value of life, power does not influence the way in which people think and their decisions in the moral domain.

By adding a control group to Study 3, it was found that the different judgments obtained between the powerful and the powerless conditions were specifically caused by having power. Lacking power did not affect moral reasoning compared to the control condition, while possession of power increased deontological moral reasoning in dilemmas without harm.

The findings extend the understanding about how power affects moral reasoning in classic dilemmas that entail a conflict between deontology and utilitarianism. The powerful were more inclined not to violate the ownership of sculptures (not choosing to sacrifice the one sculpture that they promise to help take care of) compared to people without power. This finding is consistent with previous findings about the association between high-power and rule-based moral judgments (Lammers & Stapel, 2009). Lammers and Stapel focused on the choice between rules or regulations set by a specific person or organisation (e.g., the teacher, and the hospital), while the rule in the current study is about not violating ownership. As protecting ownership rights also belongs to an important social rule (Millar et al., 2014), this study replicated the previous findings in the classic footbridge and trolley dilemmas in the absence of harm.

Even though power seems to be associated with deontological moral judgments, the findings show that there is a limited scope for the influence of power upon moral thinking styles. Differences in the moral thinking styles of the powerful and the powerless are only present in dilemmas without harm. People who do not have power change their thinking style towards deontology in dilemmas in the presence of harm, which is consistent with previous findings that harm decreases utilitarian judgments via more intuition aroused (Cushman & Greene, 2012; Greene et al., 2009; Moore et al., 2008); this may limit the generalisability of the previous study. Lammers and Stapel (2009) also mentioned that the difference in moral judgments of the powerful and the powerless may disappear in the extreme form of

outcome-based choices: utilitarianism (to sacrifice one person to save ten).

One question that arises is why powerful people have deontological preferences in dilemmas that involve no harm to life. Deontological thinking relies on intuition, whereas utilitarian reasoning tends to be based on deliberation (Greene et al., 2001; Greene et al., 2008). Power holders' tendencies to rely on intuition has been established in a wide range of circumstances. Power holders rely on subjective experiences during reasoning; for example, they rely on the ease or difficulty in retrieving information, which can enter as an input in a variety of judgments (Weick & Guinote, 2008). Similarly, experiences that arise from the motor system (motor fluency) also affect the judgments of power holders more compared to those of individuals who lack power. For instance, after training extraocular muscles to perform eye movements employed to scan the environment, powerful participants were more likely to move the stimuli that engaged the trained muscles than other stimuli (Woltin & Guinote, 2015).

Despite the evidence, we did not find support for the notion that the effects of power on moral reasoning are solely driven by processing style. In Studies 3 and 4, processing styles were assessed using self-report measures. Intuitive processing did not mediate the association between high power and deontological judgments. This may be owing to the fact that people cannot really notice how they process the dilemma and reliably report it (Haidt, 2001, 2007; Nisbett & Wilson, 1977; Uleman & Bargh, 1989). Direct measurement may be not a good way to test the role of processing styles, and the two studies in next chapter will examine the role of

processing style with other methods.

# Chapter 3: Power, Cognitive Processing Style and Moral Judgments

## 3.1 Overview

In Chapter 3 and Chapter 4, we focus on exploring why power affects moral judgments. It has been argued that the association between power and moral judgments occurs due to motivated social cognition, in particular rule-based thinking (Lammers & Stapel, 2009). In this project, we consider that not only motivated social cognition can enhance the prevalence of deontological moral reasoning among power holders, but also that their predisposition to process information in an automatic fashion can do so. Chapter 3 investigates the role of processing style on the effects of power on moral judgments. Later, in Chapter 4 we will examine the role of motivational factors linked to goal pursuit on the moral judgments of powerful and powerless individuals.

Intuitive (vs. deliberative) cognitive processing style was found to drive deontological (vs. utilitarian) moral judgments (Cushman et al., 2006; Feinberg et al., 2012; Greene et al., 2008; Greene et al., 2001; Mikhail, 2007). Harm to life leads to more deontological moral choices, while personal harm (the harm generated by the agent's muscles with personal contact) leads to more deontological choices than impersonal harm (the harm generated by a machine without personal contact) (Greene et al., 2009; Greene et al., 2001; Hauser et al., 2007). This difference has been explained by differences in processing style. Harm in high-conflict dilemmas triggers intuitive justifications or quick unconscious choices based on one's feelings

(Haidt, 2001, 2003; Wheatley & Haidt, 2005). More directly, fMRI studies showed that emotion-related brain areas showed greater activity when responding to personal dilemmas relative to impersonal dilemmas, dilemmas in the absence of harm to life and non-moral decisions, while those brain areas related to abstract reasoning and problem solving showed increased activity when responding to impersonal dilemmas and dilemmas without harm (Greene & Haidt, 2002; Greene et al., 2004; Greene et al., 2001).

We expected that cognitive processing style provides part of the explanation for the relationship between power and moral judgments. Although we did not find support for this hypothesis in the self-report questionnaires considered in Study 3, it is possible that participants are not aware of how they are processed during judgments and self-report questionnaires may not be able to reliably detect such effects (Haidt, 2001, 2007; Nisbett & Wilson, 1977; Uleman & Bargh, 1989). Thus, here we employed a moderation-of-process design to examine the effect (Spencer, Zanna, & Fong, 2005).

Baron and Kenny (1986) defined mediator as how external physical events take on internal psychological significance. Independent variable (A) influences dependent variable (B) via mediator (C), meaning that the mediator (C) can explain the direct effect of A on B totally or partly. Much research has used this regression to test psychological processes (e.g., Anderson & Berdahl, 2002; Handgraaf, Vermunt, Wilke, & De Dreu, 2008; Lammers, Gordijn, & Otten, 2008; Wojciszke & Struzynska–Kujalowicz, 2007). Recently, Spencer et al. (2005) challenged that the

method to construct mediation suggested by Baron and Kenny is overused and sometimes improperly used in psychology research. In their opinion, researchers need to consider examining mediators at the level of experimental design, but not at the statistical level. They mentioned three possible types of methods to provide evidence for the proposed psychological processes, including measurement-of-mediation design, moderation-of-process design and experimental-causal-chain designs. In fact, Baron and Kenny's statistical analysis about mediation is just one form of statistical analysis for the measure-of-mediation experimental design, but not the only method to provide evidence to examine the psychological processes. They further argued that when it is easy to measure a theoretical psychological process and difficult to manipulate, mediation analyses should be preferred. However, when it is easy to manipulate a proposed psychological process but difficult to measure it, moderation designs are an effective method to examine underlying process.

In this chapter, we aimed to examine whether intuitive (vs. deliberative) cognitive processing style contributes to explain the deontological (vs. utilitarian) moral judgments of the powerful (vs. the powerless). According to Spencer et al. (2005), cognitive processing style in this research is an easily manipulated variable that is difficult to measure, so we should choose moderation-of-process design. Current scales to measure cognitive processing style all focus on relative stable long-term individual processing style, and are not able to precisely assess the temporal processing style after participants are manipulated with high/low power.

Using self-reporting questionnaires to measure cognitive processing style can both

bring in participants' natural cognitive processing tendencies and the effect of power

manipulation, so that the results may not totally reflect participants' processing style

under the effect of power manipulation. Thus, we used cognitive load and

deliberative thinking instruction as moderators to test whether cognitive processing

style is the psychological process underlying the effect of power on moral

judgments.

**3.2 Study 5: Cognitive Load Increases the Preference for Deontology of the Powerless**

Study 5 was designed to verify that changes in processing style are capable of

altering moral judgments, and thereby increase or decrease power-related differences

in moral judgments. Specifically, the aim of Study 5 was to show that experimentally

induced intuitive processing (see Bartel, 2008; Greene et al., 2008) would enhance

deontological preferences among powerless individuals; this would not affect

powerful individuals who have already engaged in intuitive deontological reasoning.

Consequently, power may no longer affect moral reasoning under more automatic

intuitive processing style.

Study 5 employed the dilemma used in Study 1. Intuitive processing style

was induced through memory cognitive load (Körner & Volk, 2014). According to

Greene's dual process model of moral judgments, consuming cognitive resources can

decrease deliberation, and lead to difficulties in making utilitarian moral judgments

(Greene et al., 2008; Greene et al., 2004). Cognitive load (Greene et al., 2008;

Körner & Volk, 2014; Moore et al., 2008) and time limit (Suter & Hertwig, 2011) are proved to be effective ways to consume participants cognitive resources during moral judgments. However, the time limit experimental design in the previous study (Suter & Hertwig, 2011) only limited the decision time in the question page; it did not limit reading time. In our pilot study, some participants had completed reasoning during reading before making judgments, so time limit did not constrain their deliberation. In contrast, cognitive load is a compulsory task in which participants are proactive in remembering the digits and putting into cognition resources. This can avoid the problem of time-limited designs. Thus, we chose cognitive load tasks to decrease participants' cognitive resources in this study.

We expected that, if the powerful use their intuition to think about moral issues even under no-load, then cognitive load tasks should not have much (if any) effect on subsequent judgments. In contrast, cognitive load would consume the cognitive resources of the powerless, thus increasing a preference for deontological judgments among these participants.

## Method

### Participants and Design

One-hundred and thirty-nine students (109 female, 30 male, $M_{age} = 22.18$, $SD_{age} = 4.66$) were recruited from through the Department participants pool. They received credit or were compensated with two and half pounds for participation in the study. The sample size ($n = 128$) was calculated assuming a medium effect size ( $\eta^2_p = 0.25$) with a desired power level of $p = .80$ (Cohen, 1988), and a desired

alpha error probability of $p = .05$. We intentionally oversampled in a single wave of data collection to account for potential drop-outs. Participants were randomly assigned to one of a 2 (Power: high vs. low) × 2 (Cognitive load: load vs. no load) conditions of this between participants design. Data were collected via a Qualtrics questionnaire.

**Procedure**

After participants went into the lab, they were linked to the Qualtrics survey. Participants firstly completed a role simulation task as the power manipulation as in Study 3. After completing the power priming task, participants completed three power checking questions (α= 0.93) on nine-point scales as previous studies.

Subsequently participants took part in what was allegedly a study focusing on the understanding of preference in everyday life situations. They were presented with the medical moral dilemma about a man who suffers from an incurable disease as Study 1. Half of the participants read the dilemma under high cognitive load (a digit-memorizing task), and participants in the control condition read the dilemma and made moral judgments without load.

The moral dilemma was presented by two paragraphs as follow:

*This is a man who has a disease but does not know about it yet. He is being seen by a doctor (Dr. Lawrence). Although the man will not notice any problem or suffer any inconveniences from the disease, it is sure that he will die within six to nine months. No cure is possible and nothing can be done to help the man. Accidentally, the girlfriend of the young man hears the diagnosis before her boyfriend. She begs Doctor Lawrence to wait with informing her friend. She explains that her friend*

*always wanted to visit Africa and that they recently booked a trip together.*

*Given that the man will die anyway, that no cure exists and that he will not suffer from it, the girlfriend insists that her boyfriend is better off if the doctor informs him after the holiday. The rules and regulations of the hospital however require doctors to inform patients as soon as possible.*

At the end of every dilemma, participants were asked "What should Doctor Lawrence do?" They rated on a nine-point scale from 1 (Wait until after the holiday; *utilitarian judgment*) to 9 (inform the patient directly; *deontological judgment*).
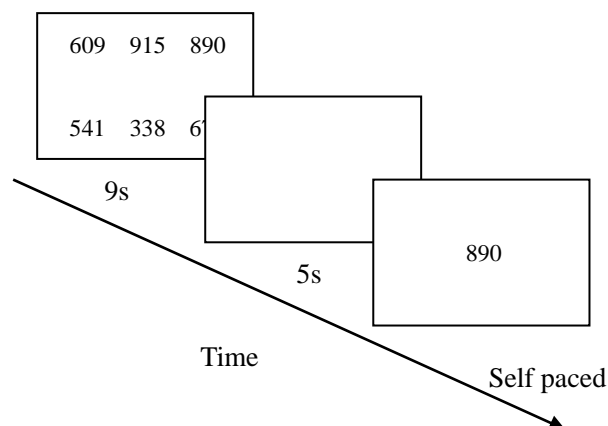


*Figure 5.* Example of digit-memorizing task.

Cognitive load was manipulated by asking participants to memorise digits while reading the scenarios. In the high load condition participants were asked to complete digit-memorizing tasks three times while reading the scenarios. When the digit-memorizing task appeared, they saw a $3 \times 2$ matrix of three-digit numbers (as depicted in Figure 5). The digits were shown for nine seconds. Then, the digits

disappeared, and this was followed by a blank screen presented for five seconds. After this, they were shown a one three-digit number, and asked whether this number was part of the preceding matrix.

Upon reading the first paragraph, the digit-memorizing task firstly appeared. Participants did the memorizing task again after second paragraph. Subsequently, they saw the moral question, which appeared on the screen for four seconds. Then, they completed the third memorizing task, and then answered the moral judgment question.

Participants in the control group just read the whole dilemma without being interrupted with a secondary task, and made their judgment. In order to match the two conditions, the control group read the first paragraph of story in the first page, and then the page jumped to the second paragraph after they finished.

After the moral judgment task, emotions, including angry, sad, disgusted, disappointed, fear, were measured by nine-point scales from 1 (*not at all*) to 9 (*very much*). Rule-based thinking (Lammers & Stapel, 2009) was also assessed using four nine-point scales varying from 1 (*totally disagree*) to 9 (*totally agree*) items. Finally, participants answered questions about their judgment strategy and provided demographic data. They were also checked for suspicion about instructions, and debriefed.

## Results

A 2(Power) $\times$ 2 (Cognitive load) ANOVA analysis was carried out to check whether the power manipulation was successful. The results showed that the effect of

power was significant, $F(1,135) = 66.646$, $p < 0.001$, $\eta^2_p = 0.331$, 95% CI$_{\text{High}}$ [6.89, 7.71] and 95% CI$_{\text{Low}}$[4.50, 5.32], while the effect of cognitive load $F(1,135) = 0.24$, $p = 0.628$, $\eta^2_p = .002$, and the interactive effect of power and cognitive load on moral judgments, $F(1,135) = 0.02$, $p = 0.90$, $\eta^2_p < .001$, were not significant. Participants in the high power condition ($M = 7.30$, $SD = 1.25$) felt more powerful, in more control over the situation, and with more influence over others, relative to those in the low power condition ($M = 4.91$, $SD = 2.09$). The manipulation of cognitive load did not affect participants' power experiences.

A 2 (Power) × 2 (Cognitive Load) ANOVA analysis yielded a significant effect of power, $F(1, 135) = 4.06$, $p = .046$, $\eta^2_p = .03$, 95%CI$_{\text{High}}$[5.63, 6.88] and 95%CI$_{\text{Low}}$[4.72, 5.98]. The effect of cognitive load was not significant, $F(1, 135) = 1.41$, $p = .24$, $\eta^2_p = .01$. However, there was a marginal interaction between power and cognitive load on moral judgment, $F(1,135) = 3.32$，$p = 0.07$，$\eta^2_p = .024$. Participants in the powerful condition ($M = 6.26$, $SD = 2.54$) made more deontological moral judgment than those in the powerless condition ($M = 5.36$, $SD = 2.81$). Under no-load conditions, participants in the high power condition ($M = 6.40$, $SD = 2.19$, 95%CI[5.52, 7.29]) were more likely to tell the patient his illness immediately according to the hospital regulation (deontological judgments) than those in the low power condition ($M = 4.68$, $SD = 2.73$, 95%CI[3.78, 5.57]), $t(67) = 2.90$, $p = .005$, $d = 0.70$, 95%CI[0.54, 2.91]. Under load conditions, the judgments of powerful people ($M = 6.11$, $SD = 2.87$, 95%CI[5.23, 7.00]) and powerless people ($M = 6.03$, $SD = 2.76$, 95%CI[5.14, 6.91]) did not differ, $t(68) = 0.13$, $p = 0.90$, $d = 0.03$,

95%CI[-1.26, 1.43] . As expected, powerful people always adopted a deontological moral thinking style regardless of whether they made judgments under load or not. Cognitive load task did not change the moral judgments of power holders, $t(68) = -0.47$, $p = 0.64$, $d = 0.11$, 95%CI[-1.50, 0.93]. The cognitive load task altered moral judgment style of the powerless. It led to an increasing preference for deontological judgments, $t(67) = 2.05$, $p = 0.045$, $d = 0.49$, 95%CI[0.03, 2.67]. This finding suggests that extensive processing style is implicated in the utilitarian judgments of powerless participants, and that the judgments of powerless participants are made with relatively few cognitive resources.

**Other variables.** No evidences in data analysis showed that three types of emotions, including anger, $\beta = -.13$, $t = -1.49$, $p = .14$, 95% CI [-.39, .06], sadness, $\beta = -.14$, $t = -1.63$, $p = .11$, 95% CI [-.46, .05], disappointedness, $\beta = -.13$, $t = -1.48$, $p = .14$, 95% CI [-.34, .05], and rule thinking, $\beta = .02$, $t = 0.23$, $p = .82$, 95% CI [-.42, .52], could predict moral judgments. Only disgust was negatively significantly related to moral judgments, $\beta = -.24$, $t = -2.83$, $p = .005$, 95% CI [-.55, -.10]. This is consistent with previous study. Disgust leads to stricter judgments and more deontological judgments (Horberg, Oveis, Keltner & Cohen, 2009; Inbar, Pizarro, Knobe, & Bloom, 2009; Szekely & Miu, 2015; Wheatley, & Haidt, 2005). However, power did not predict the level of disgust significantly, $\beta = -.029$, $t = -0.34$, $p = .74$, 95% CI [-.39, .27]. Thus, these variables could not explain the relationship between power and moral judgments.

**Discussion**

Using the moderation-of-process experimental design (Spencer et al., 2005), this study tested the role of processing style in the relationship between power and moral thinking preferences. In the absence of cognitive load, the study successfully replicated the effects of power on moral judgment previously obtained in contexts where harm to life was absent; however, when judgments were made under high cognitive load, this was no longer the case. Powerful participants still kept their preferences for deontological solutions, whereas powerless participants decreased their utilitarian moral judgments. Consequently, no differences were found between powerful and powerless participants under high load.

The findings provide support for the hypothesis that high-power individuals' moral judgments recruit fewer resources when compared to those of non-powerful people. Thus, the judgments of powerful people rely on automatic, intuitive cognition, whereas those of people who do not have power use a more deliberative method to process information than the powerful. Powerless individuals' preferences to think in a more controlled and deliberative fashion facilitates their reliance on utilitarian moral judgments. The links between power and automatic intuitive reasoning are consistent with existing research on power and decision making (e.g., Fiske, 1993; Keltner et al., 2003; Weick & Guinote, 2008). However, cognitive load did not change the judgments of power holders in this study. More evidence is needed to support the link between power and intuitive processing style, and next study will further test this link by manipulating the deliberative thinking of power holders.

**3.3 Study 6: Deliberative Thinking Increases Utilitarian Judgments Among the Powerful**

This study aimed to further examine whether powerful individuals' moral judgments are associated with an intuitive processing style. This study compared the moral judgments of high-power participants and their control counterparts in conditions where deliberative thinking was elicited (versus not).

Here, we used deliberative thinking instructions to guide participants to think more about the moral dilemmas. Participants in deliberative thinking conditions were told that they would give arguments and justification after their judgments. Asking participants to deliver strong arguments has proved to be an effective way to induce deliberation to increase utilitarian moral judgments (Paxton & Greene, 2010; Paxton et al., 2012); giving additional time to deliberate is another effective method (Paxton et al., 2012; Suter & Hertwig, 2011). However, it was found that we cannot guarantee that all participants really deliberated in the extra time provided in a pilot study. Deliberative thinking instruction required participants to deliberate and write down their arguments after judgments, which effectively avoided the problem caused by time design. Therefore, we adopted deliberative thinking instruction design in Study 6.

If the association between high power and deontological moral judgments is reduced when deliberative thinking is elicited, this would provide further support for the causal role of automatic, intuitive reasoning on power holders' preferences for deontological moral thinking. We expected that, in a control condition, the powerful

would show a higher preference for deontological moral thinking style than people in the control condition, which is similar to the results of Study 3. Crucially, this difference should be reduced or vanished in the condition in which deliberative thinking had been elicited.

## Method

**Participants and Design**

One-hundred and thirty-seven students were recruited from the Departmental participant pool. All participants received half credit compensation for participation. Sample sizes were calculated for detecting a medium ($f = .25$) effect with a desired power level of $p = .80$ (Cohen, 1988), and a desired alpha error probability of $p=.05$. We intentionally oversampled in a single wave of data collection to account for potential drop-outs. More participants registered in the study than that we expected, and these were included in the analysis. Participants were randomly assigned to one of four conditions determined by a 2 (Power: high vs. control) $\times$ 2 (Deliberative thinking manipulation: instruction vs. no instruction) between participants design. Data were collected via a Qualtrics questionnaire.

**Procedure**

Once participants agreed to take part, they were linked to the Qualtrics survey. Similarly to Study 3, power was manipulated with a role simulation task. Participants in high power condition were asked to describe what a typical day in their life would be if they were a managing director in a marketing organisation. Participants in the control condition described their typical day. After completing the power

manipulation, participants completed the same manipulation check questions as in other studies above.

Then participants read the adapted footbridge sculpture moral dilemma as Study 3. To elicit deliberative thinking, half of the participants were instructed to make causal thinking during reading the dilemma and make moral judgments. Before reading the dilemma, half of participants were instructed that "you will be asked to describe why you chose this course of action. Please take your time to think about this situation and choose the best course of action." The other half just made judgments in the control condition and did not see this instruction. At the end they were asked "To what extent is it appropriate for you to push the sculpture?" Participants rated on a nine-point scale from 1 (definitely NOT; *deontological option*) to 9 (definitely YES; *utilitarian option*). Then they wrote their thoughts during making judgments. Finally, participants provided demographic data, were checked about suspicions they had about the experiment and debriefed.

**Results**

First, it was checked whether the power manipulation was successful. A 2 (Power) $\times$ 2 (Deliberative thinking) ANOVA showed that the effect of power on the power manipulation check questions was significant, $F(1,136) = 86.18$, $p < .001$, $\eta^2_p = .39$, 95% $CI_{High}$ [7.13, 7.88] and 95% $CI_{Control}$ [4.64, 5.39]. The effect of deliberative thinking instruction was not significant, $F(1,136) = 0.05$, $p = .82$, $\eta^2_p < .001$, and the interaction effect of power and deliberative thinking instruction was not significant, $F(1,136) = 0.23$, $p = .63$, $\eta^2_p = .002$. Participants in the high power

condition ($M = 7.51$, $SD = 1.26$) felt more powerful (i.e. more in control over the situation, and more influential), relative to those in the low power condition ($M = 5.01$, $SD = 1.82$). Instruction type did not affect participants' power experiences.

A 2 (Power) × 2 (Deliberative thinking) ANOVA was conducted on the permissibility of pushing the one sculpture onto the track in the footbridge dilemma. The effect of power, $F(1,136) = .76$, $p = .38$, $\eta^2_p = .006$, was not significant, and the effect of deliberative thinking instruction was marginally significant, $F(1,136) = 3.09$, $p = .081$, $\eta^2_p = .023$. There was a significant interaction effect of power and deliberative thinking instruction, $F(1,136) = 4.66$, $p = .033$, $\eta^2_p = .034$.

As shown in the Table 6, high power participants were more inclined to push the sculpture to save the other five (utilitarian moral judgments) when they were instructed to engage in deliberative thinking than in the control condition, $t(65) = 3.25$, $p = .002$, $d = 0.79$, 95%CI[0.52, 2.34], while the moral judgments of participants in the control group did not differ across the two types of conditions, $t(65) = - 0.069$, $p = .95$, $d = 0.017$, 95%CI[-1.30, 1.00]. Participants in the high power condition were more inclined not to push one sculpture to save five (the deontological moral choice) compared with their control counterparts in the condition without the instruction of deliberative thinking, $t(67) = - 2.01$, $p = .048$, $d = 0.48$, 95%CI[-2.21, -0.01]. This result is same as that obtained in Study 3. However, the difference between participants in the high power condition and control condition was eliminated when participants were presented with the deliberative thinking instruction, $t(66) = 0.98$, $p = .33$, $d = 0.24$, 95%CI[-0.49, 1.43] .

As expected, thinking deliberatively shifted the reasoning of powerful participants towards utilitarianism. Consequently no differences were found when deliberative thinking instruction was presented.

Table 6

*Mean scores and 95% Confidence Intervals of moral judgments of participants in the conditions in which systematic thinking was induced and not in Study 6.*

| | Systematic thinking | | | Control condition | | |
|---|---|---|---|---|---|---|
| Power condition | n | M(SD) | 95% CI | n | M(SD) | 95% CI |
| High power | 35 | 5.18 (1.93) | [4.45, 5.90] | 34 | 3.74 (1.85) | [3.03, 4.46] |
| Control condition | 34 | 4.71 (2.04) | [3.98, 5.43] | 34 | 4.85 (2.66) | [4.13, 5.58] |
| Total | 69 | 4.94 (1.98) | [4.43, 5.46] | 68 | 4.29 (2.34) | [3.79, 4.81] |

*Note.* High values mean utilitarian moral judgments.

## Discussion

Using the moderation-of-process experimental design (Spencer et al., 2005), this study provided support for the hypothesis that power holders' preference for deontology is accompanied by an automatic processing style. Similar to the results of Studies 1 to 5, in Study 6, powerful participants showed a stronger preference for deontological solutions compared to participants in the control group. However, the preference for deontological judgments of the powerful was eliminated when participants were induced to think deliberatively. This finding suggested that powerful participants' default thinking style is more automatic and intuitive than that of control participants, and this can be one reason why the powerful tend to make deontological moral judgments.

## 3.4 Summary and Outlook

This chapter used the moderation-of-process design (Spencer et al., 2005) to explore the mechanism underlying the association between power and moral judgments from the perspective of cognitive processing. The findings also answered why the effects of power on moral reasoning occurs in some situations and not in others. Using a number-memorising task developed by Körner and Volk (2014), Study 5 showed that cognitive load decreased the utilitarian moral judgments of the powerless, whereas the powerful always stick to deontology. Study 6 examined the underlying process of why possession of power increased deontological moral thinking in dilemmas without harm, and found that the preference for deontological moral thinking of powerful individuals did not occur in the condition in which deliberative thinking was elicited.

The association between power and moral thinking style examined in this article is consistent with the intuitionist moral model (Haidt, 2001), as well as dual process moral judgment theory (Greene, 2009; Greene et al., 2009). Moral judgments are not stable: they are affected by various contextual cues and people rely on intuition or elaborative reasoning to think about moral events depending on context. Deontological moral judgments are usually driven by moral intuition, whereas utilitarian decisions need deliberation (Bartels, 2008; Greene et al., 2008; Suter & Hertwig, 2011).

Examining the role of processing styles as an underlying process provides insights on processes associated with social power. Consistent with the power

approach/inhibition theory (Keltner et al., 2003), powerful individuals prefer to use automatic social cognition, while powerless individuals prefer to use controlled social cognition. This effect also occurs in the moral judgments. The current study found that the link between possession of power and intuitive thinking partially provides an explanation for the specific stable preference for deontology of the powerful, informing the theory about how power affects the mind.

Study 6 showed that deliberative thinking instruction can lead to more utilitarian moral judgments of power holders. Power holders do not always rely on intuitive thinking, and they also modify their cognition according to the current context and tasks; this is consistent with the situated focus theory of power. Therefore, we expect that cognitive processing style is not the only psychological process underlying how power affects moral judgments, and that goal focus and cognitive processing style contribute to explain the effect of power on moral judgments together. The next chapter shall investigate the role of goal focus in the relationship between power and moral judgments.

**Chapter 4: Power Increases Moral Flexibility Via Focal Goal Commitment**


**4.1 Overviews**

      This chapter considers why power influences moral judgments from the perspective of goal focus. The last chapter provided support for the notion that processing style can contribute to the explanation for the differences in moral judgments of the powerful and the powerless. This is consistent with the proposition that power increases a cognitive tendency to rely on automatic cognition (Fiske, 1993; Keltner et al., 2003). However, other psychologists hold different views about the mechanism underlying the cognition and behaviours of power holders. Although many findings support the notion that the powerful are automatic (e.g., Golby et al., 2001; Goodwin et al., 2000; Guinote et al., 2006; Guinote et al., 2010; Keltner et al., 2003; Klocke, 2009; Schmid & Amodio, 2016 ; Weick & Guinote, 2008), others argue that they are goal focused (e.g., Galinsky et al., 2003; Guinote, 2007c; Nissan et al., 2015; Overbeck & Park, 2006; Schmid et al., 2015; Seibert et al., 2011).

      Here, we hold the view that these two theories focus on different levels of motivation: intuitive/deliberative processing is mainly about how powerful individuals process information, while goal focus is their aims and desires based on social environments. These two theories do not contradict each other and they can together account for why power influences moral judgments. Studies 5 and 6 did not consider the effects of power on moral judgments from the perspective of dynamic and motived social cognition, and the present chapter puts the focus on one of

important social motivation factors: goal focus.

It is widely accepted that power facilitates action and orientates individuals towards salient goals (Galinsky et al., 2003). Power holders devote their undivided attention and effort selectively in line with their active goals (Guinote, 2007b, c; Overbeck & Park, 2006), which occurs because having power activates the behaviour approach system (BAS) (Keltner et al., 2003): a system associated with the processing of rewards and the pursuit of one's aims and desires (Carver & Scheier, 2001). Power triggers one type of approach motivation associated with power holders' aims and desires. It energises individuals, increasing wanting and working to obtain their desires and aims (see Guinote, 2017). According to the situated focus theory of power, power increases flexibility and shifts behaviour in line with salient goals, states of the person or opportunities in the environment (Guinote, 2007a, b). This in turn affects the priorities and the cognition of power holders.

The mission of an organisation is capable of affecting power holder's priorities, as well as how they attend and think about other people. For instance, Overbeck and Park (2006) found that, in person-centred organisations that emphasise social relations, power increases social attention, but not in product-centred organisations. In product-centred organisations, power holders focus primarily on productivity, rather than on the social environment (see also Guinote, 2008; Weick & Guinote, 2008); similar phenomena were also found in organisational studies. Leaders tend to fulfil the mission, values and culture of their organisations (Becker

& Fritsche, 1987; Hofstede et al., 2002; Smith & Hume, 2005; Kopelman, 2009; Willis & Guinote, 2011; Yukl, Gordon, & Taber, 2002). Power holders also make ethical decisions according to the right relational values in their position (Ladkin, 2006).

Goals trigger selective attention and reasoning in line with a focal goal; for example, goals affect the weight that people give to different moral options (Deci & Ryan, 2000; Goldratt & Cox, 2016). Focusing on long-term goals increases immanent justice reasoning (i.e., attributing a negative event to individuals' prior moral failings) via activating a belief in the just word (Callan et al., 2013).

In line with this notion, we expected that power holders would modify their judgments and behaviours according to goal requirements. The moral reasoning of power holders is more flexible than previously considered and depends on active goals.

Also, we argued that power holders would commit to the focal goal more strongly than the powerless. Goal commitment reflects the degree to which a person is determined to achieve a desired (or required) goal (Hollenbeck & Klein, 1987; Klein et al., 2001; Locke & Latham, 1990); it can act as a moderation in the effect of focal goals on moral judgments. A higher commitment to goals could lead to more input to serve active goals (Geijsel et al., 2003; McCaul et al., 1987; Seo et al., 2018). Thus, the more power holders are committed to the active goals, the more focal goals guide their moral judgments when compared to powerless individuals. Put differently, power holders' greater goal commitment is the mechanism that enhances the impact

of power and focal goals on moral judgments.

Maintaining authority and the stability of power structures would act as the chronic goal of the powerful; it would exist independently of specific contextual goals. Authority maintenance is a natural chronic goal of individuals in high positions in the hierarchies (Knight & Mehta, 2017; Sapolsky, 2004; Willis et al., 2010). Threats to authority bring stress to the powerful (Deng et al., 2018; Willis et al., 2010), while maintaining the authority protects their priorities and accesses to resources (Pratto et al., 1999). To maintain authority, power holders generate and maintain rules, norms and principles that they use as primary means to stabilise power relations (Sidanius et al., 2004; Sidanius et al., 2003) to help advance collective goals, as well as to control subordinates (Habermas, 1975). Thus, authority maintenance contributes to an explanation behind the association between power and moral judgments. Regardless of the specific active goal, powerful individuals would always show a tendency of preferences for deontological judgments based on the motivation to maintain the authority, while this tendency would decrease when the contextual goal directs to outcomes.

Four studies investigated the influence of contextual goals linked to the mission of the organisation, as well as chronic goals linked to the maintenance of authority on the moral judgments of powerful and powerless individuals. Mechanisms linked to goal commitment were also examined.

Study 7 examined whether focal goal modifies the effect of power on moral judgments. Study 8 manipulated the sense of power and assessed subjects'

perception of the value in their context, aiming to examine whether the same effect exists outside laboratory conditions. Studies 9 and 10 measured whether the motivation to maintain authority and the goal commitment explains the moral choices of power holders respectively.

We assumed that specific focal goals related to organisational missions would guide the moral judgments of power holders, while this effect would not occur in powerless individuals. The moral flexibility with focal goals occurs due to the increased goal commitment of power holders. Meanwhile, the goal to maintain the authority would be an underlying chronic goal independent of contextual goal.

## 4.2 Study 7: Goal Focus Modifies How Power Affects Moral Judgments

This study aimed to test whether the moral judgments of the powerful are dependent on goal focus. The study used a paradigm developed by Overbeck and Park (2006) regarding how different goals guided the social attention of power holders. Power holders modify their judgments and behaviours according to goal requirements (Guinote, 2007c; Overbeck & Park 2006; Schmid & Amodio, 2015). If compared to recalling past events task, this method can manipulate power and goal focus in one package. Participants imagined that they were in the powerful, powerless and neutral roles of the company, and then were informed with the mission of the company: regulation-orientated or person-orientated. After that, they made moral judgments concerning a moral dilemma in an organisational environment.

Here, we propose that the salient goals of power holders alter their reasoning styles. Goals related to the maintenance of authority should trigger deontological reasoning. In contrast, the goal of putting people first should trigger a concern for the moral consequences for all people, thereby shifting power holders' moral reasoning towards utilitarianism.

## Method

### Participants and Design

One-hundred and ninety-six participants (109 female, 87 male, $M_{age} = 23.54$, $SD_{age} = 6.91$) were recruited via Prolifc, an online participants-recruiting website. They were compensated half pound for participation. Sample sizes were calculated for detecting a medium ($f = .25$) effect with a desired power level of $p = .80$ (Cohen, 1988), and a desired alpha error probability of $p = .05$. A total of 128 participants were required. However, in this study a control group was included, so we aimed at 32 participants per experimental condition, which amounts to 192 participants in total. We also intentionally over sampled in a single wave of data collection to account for potential drop-outs. Participants were assigned at random to one of the six conditions determined by the 3 (power: high power, low power, and control condition) × 2 (goal activation: regulation-centred vs. person-centred) between participants design.

### Procedure

After participants agreed to take part in the research, they were linked to a Qualtics questionnaire. One third of the participants were asked to imagine

themselves being the manager (high power); one third participants were invited to

imagine being an employee (low power); and the remaining third of participants

responded from an out-of-context role (control condition).

Then all participants read information concerning the virtual organisation,

and its mission. In the regulation-centred condition, participants read:

> This is a medium sized chemistry company. The company was created 15 years ago and has gained a reputation for good service and ethical conduct. The organisation emphasises transparency of procedures among co-workers and with the public. Employees normally tend to follow regulations. The company's mission statement emphasizes that all production and work should be done according to regulations. Thus, the whole company has an atmosphere, in which workers produce rigorously, strictly, and hope to perfectly finish their own work parts.

In the person-centred condition, participants read,

> This is a medium sized chemistry company. The company was created 15 years ago and has gained a reputation for good service and collegial relationships. The organisation puts people first and emphasizes wellbeing among employees. Employees tend to focus on communication and collaborative pursuits. The company's mission statement emphasizes that it cares very much for employees and is concerned with making its people feel valued and included. Thus, the whole company has an atmosphere in which workers feel positive, engaged, and with a sense of belonging to the organisation.

After participants learned about the mission of the organisation, they were

presented with a moral dilemma and were asked "If one employee in this (your)

company fitted the following situation, what would you think?" The dilemma was

created and had been tested by a pilot study. The dilemma was a low conflict

dilemma as the dilemmas used in previous studies, and we used a different dilemma

to guarantee that the effect did not only occur in one scenario.

The dilemma was as the follows:

*Karen is an employee in this company, but she is also a mother of a four-year old child. Because the products of this company are kind of dangerous, this company forbids employee absence for their personal reasons during working time. However, on this day, the school of Karen's child closed early due to some temporary reason, and there is no other family members who can take her child, so Karen decides to leave her work for a short period of time to take her child from school to home.*

At the end of the dilemma, participants were asked "To what extent it is appropriate for Karen to leave work to take her child?" on a seven-point scale from 1 (*definitely NOT; rule-based judgment*) to 7 (*definitely YES; outcome-based judgment*). Finally, participants provided demographic data.

## Results

A 3(Power) × 2 (Focal goal) ANOVA analysis testing participants' moral decisions about whether Karen should leave work to take her child yielded a marginal effect of focal goal, $F(1,190) = 3.782$，$p = 0.053$, $\eta^2_p = 0.02$. The effect of power was not significant, $F(1,190) = 1.003$, $p = .37$, $\eta^2_p = .01$, but there was a significant interaction between power and goal activation on moral judgment, $F(1,136) = 3.205$, $p = .043$, $\eta^2_p = 0.033$. People more strongly believed that Karen should not leave work to take her child (deontological choice) under the regulation-centred condition ($M = 4.75$, $SD = 1.62$) than the person-centred condition ($M = 5.18$, $SD = 1.49$). Participants in the powerful condition were more likely to

follow deontological moral theory that is they reasoned that Karen should not leave

work, under the regulation-centred context compared to the person-centred context.

In contrast, participants in the powerless and the control conditions did not show

different moral judgment tendency under two types of context (see Table 7).

Meanwhile, under regulation-centred goal activation, power significantly predicted

less utilitarian moral judgments, $F(1, 94) = 3.75$, $p = .027$, $\eta^2_p = 0.074$, whereas

under person-centred goal activation, there was no main effect of power on moral

judgments, $F(1, 96) = 0.33$, $p = .72$, $\eta^2_p = 0.007$.

Table 7

*Means, and statistical test scores as a function of power and goal activation on*

*moral judgments in study 7.*

| Power | goal | Mean(SD) | 95%CI | $t$ | df | $p$ | $d$ |
|---|---|---|---|---|---|---|---|
| low power | Person-centred | 5.06±1.60 | [4.53, 5.59] | 0.245 | 63 | .807 | 0.86 |
| | Regulation-centred | 5.16±1.55 | [4.62, 5.69] | | | | |
| control group | Person-centred | 5.14±1.59 | [4.63, 5.66] | -0.441 | 65 | .661 | 0.11 |
| | Regulation-centred | 4.97±1.64 | [4.43, 5.51] | | | | |
| high power | Person-centred | 5.35±1.25 | [4.81, 5.90] | -3.411 | 62 | .001 | 0.063 |
| | Regulation-centred | 4.15±1.54 | [3.62, 4.68] | | | | |

*Note.* High values mean utilitarian moral judgments.

**Discussion**

Study 7 sought to extend the previous understanding of the relationship

between power and moral reasoning by showing that the powerful modify their

moral judgments according to goal focus. When power holders led an organisation,

which may benefit from the maintenance of rules, they preferred deontological moral solutions. However, when they led an organisation with utilitarian goals, they opted for utilitarian moral options. In contrast, powerless and control participants were not affected by salient work goals. Therefore, the judgments of powerful people were more sensitive to the situation than those of non-powerful people.

Consistent with Study 3, no differences in moral judgments were found between the powerless and the control conditions. By including a control group, we showed that the flexible goal pursuit on moral judgments is specific to powerful individuals (it does not exist in powerless individuals and participants in the control condition).

Our theoretical reasoning about power holders' flexible moral judgments according to goal activation applies and extends previous research into power and goal orientation (Galinsky et al., 2003; Guinote, 2007a, b, c; Guinote, 2008; Overbeck & Park, 2006; Schmid et al., 2015). We found that the powerful were more inclined to make judgments based on deontological moral thinking style under regulation-centred goal activation when compared with person-centred goal activation. Conversely, the powerless and neutral perceivers did not tend to modify their judgments under different goal activation. This is consistent with past research that has identified that powerful perceivers pay social attention in a flexibly manner, using perception as an instrumental resource to achieve their ends relative to their powerless counterparts (Guinote, 2007b; Overback & Park, 2006; Schmid et al., 2015). Powerful perceivers displayed different patterns of social perception facing

the contexts with product-centred and person-centred goals, in line with active goals. Guinote's (2007a, b, c, 2017) situated focus theory of power proposes that power brings clarity of focus and eagerness of desire (wanting), as well as the drive to work towards desires and aims (goal seeking).

Consistent with suggested theories and previous evidence, this study extended the existing research in several aspects. First, this experiment unveiled that situational factors unrelated to moral reasoning could affect moral judgments. Most previous researchers considered that moral thinking is an individual processing procedure. Although moral judgments can be affected by some external factors, such as dilemma type, the influences usually take effect by eliciting intuition or systematic thinking (e.g., Greene, 2009; Greene et al., 2008; Greene et al., 2004; Greene et al., 2001). However, here the goals were particular settings of the virtual organisation, which is not necessarily related to people's moral thinking. Power holders showed flexible cognition in moral decisions, as they showed in other areas. Thus, goal activation is also an important consideration in the research of moral/ethical decision-makings of power holders in organisational environments.

Second, the study extends Lammers and Stapel's (2009) finding about the preference for the deontology of the powerful in moral judgments. They proposed that this preference is based on self-interests, so the powerful were more inclined to use utilitarian thinking style when the issues were related to their own interests. However, we think that this explanation is potentially narrow. Power holders' moral thinking style is flexible, similar to their cognition in other areas; for example,

perceiving others (Overbeck & Park, 2006; Schmid et al., 2017), situational attitudes (Briñol, Petty, Valle, Rucker, & Becerra, 2007) and cognitive tasks (Guinote, 2007a, b; Schmid et al., 2015). Flexible moral strategies of power holders are a way of serving the goals that they identified with, as well as a way of protecting their self-interests. Of course, on occasion following their self-interests can be a part of their goals.

## 4.3 Study 8: How Power Affects Moral Judgments with Personal Chronic Goals?

Study 8 investigated the links between power and personal chronic goals linked to values in their careers and contexts on moral reasoning. Business and law education shape different values and goals. Law students value rules (e.g., equality, salvation and wisdom) more, while business students are more concerned with outcomes (e.g., comfortable life, exciting life, happiness and pleasure) (McCabe, Dukerich, & Dutton, 1991). Thus, we recruited students from business and law departments, and activated their thoughts about subjects to test if these subjects interact with power on moral judgments; we also tested their product value and rule value. The study examined a similar effect to Study 7, but focused on chronic values linked to the professions that people aspire to have. Our aim was to show that, besides organisational goals, different goals could activate deontological or utilitarian moral judgments of power holders. Participants read the adapted sculpture moral dilemma, as in Study 3.

We expected that subject and values would affect the moral judgments of the powerful more than the powerless. Participants in the powerful condition from the subject of law would make more deontological moral judgments than those from the business subject; this shifting would not occur in participants in the low-power condition. Meanwhile, participants in the powerful condition would make more utilitarian moral judgments when they hold higher product value than when they hold lower product value. Product value would not change the moral judgments of participants in the low-power condition.

## Method

### Participants and Design

A total of 187 students were invited to complete a questionnaire, of which 139 (92 female, 47 male, $M_{age} = 25.85$, $SD_{age} = 6.88$) completed the questionnaires (response rate was 74.33%). Sample sizes were calculated for detecting a medium ($f = .25$) effect for the interaction effect between power and goal focus on moral judgments with a desired power level of $p = .80$ (Cohen, 1988), and a desired alpha error probability of $p = .05$. A total of 128 participants were required. However, the study was based on real settings, and we were not able to guarantee the response rate and the quality of questionnaires, so we intentionally over sampled in a single wave of data collection. The students were recruited from participants-recruiting website "Prolific" and three universities in London, getting one pound as payment by participating in the study. Participants were randomly assigned to one of two conditions (Power: high power vs. low power) in a between participants design.

**Materials and procedure**

Participants were invited to take part in a short survey about students-life perception. After they agreed to take part in, they were linked to a Qualtrics questionnaire. First, participants were asked several questions about their subject background (see Appendix 5). Examples included "What is your major?" "Could you write down three main courses that you thought are important in your major?" "For how many years have you been studying your subject?"

To manipulate power, participants then read an introduction informing them that their university will allegedly have a plan to introduce a university-wide course credit scheme (see Appendix 6), and there is a university panel for this scheme who hope to know how students think about this scheme (Weick & Guinote, 2008). The university attaches importance to research and the development of research ability of undergraduates. Besides this, the university hopes that students could study from a perspective of cross-disciplines. Thus, this scheme requires future undergraduate students to participate in research projects in one another discipline as a compulsory part of their study, including as participants, or conducting mini research project as researchers. To exclude self-interest, they were also told that this is a plan for the future undergraduate students that would not affect them.

This task was designed to manipulate participants' sense of power. In the high power condition, participants were told that their opinions would be considered by the panel very carefully. And their opinions collected by this survey will receive a weight of 50% towards the final decision of the University. In contrast, participants

in the low power condition read the information saying that their opinions collected by this survey are only for the panel to know, but this may not affect the future introduction of the scheme. Then the participants answered two open questions. "Do you agree with this scheme in general? And why?" "Please give your thoughts and further suggestions about this scheme."

After the power manipulation task, participants were presented with the sculpture moral dilemma as in Study 3. At the end of this dilemma, participants were invited to indicate whether the suggested action was morally acceptable or not on a nine-point scale from 1 (definitely NOT*; deontological option*) to 9 (definitely YES*; utilitarian option*).

The moral judgement task was followed by two sets of statements (see Appendix 7) to assess the perceived value of the organisations. Three statements focused on regulation-based values of the organisation ($\alpha = .75$) (e.g. "Thinking about the explicit or implicit norms at work, people in similar positions as you mostly think that it is important to follow them strictly.") and another three questions were related to product/outcome-based values ($\alpha = .72$) (e.g. "People in similar positions to you think that organisational profit is important for both the organisation and individuals in it."). Participants chose from 1 (*totally disagree*) to 9 (*totally agree*) to give opinions on what features are valued in their organisations. Finally, participants provided demographic information.

## Results

**Moral judgments.** As expected, participants in the high power condition (*M*

= 4.45, *SD* = 2.54) were more inclined not to push the sculpture to save the other five

(deontological judgment) compared to those in the low power condition (*M* = 5.35,

*SD* = 2.63), *t*(137) = -2.04, *p* = .043, *d* = 0.35, 95%CI[-1.77; -0.03].

**Subject and values.** Then we used regression analysis to test how the values

of the subjects affect moral principles relied by the powerful and the powerless. We

included the main effects (i.e. power, subject, mean centring product value and mean

centring rule value) and the interaction effect. The descriptive statistics and

intercorrelations of these variables are shown in Table 8.

Table 8

*Descriptive statistics and intercorrelations in Study 8.*

|  | Mean | SD | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|---|
| 1. Power | 0.11 | 1.00 |  |  |  |  |
| 2. Product value | 6.92 | 1.20 | .04 |  |  |  |
| 3. Rule value | 7.03 | 1.32 | .03 | .33** |  |  |
| 4. Subject | 0.11 | 1.00 | .10 | .05 | -.11 |  |
| 5. Moral Judgments | 4.86 | 2.61 | -.17* | .27* | .21* | -.02 |

*Note.* * *p* < .05. ** *p* < .01.

It can be seen from Table 9, the effects of power and product value are

significant, and the interaction effect of power and product value is significant. For

the participants in high power condition, the scores of product value was

significantly positively related to moral judgments, *b* = .44, SE = 0.21, *t* = 4.28, *p*

< .001, 95%CI[0.47, 1.30], while for participants in the low power condition, their

product value scores was not related to moral judgments, $b = .06$, SE = 0.31, $t = 0.49$, $p = .63$, 95%CI[-0.46, 0.76]. Therefore, the positive relationship between product value and moral judgments was only observed in participants in high power condition, but did not occur in those in low power condition.

Table 9

*Regression analyses examining the effect of power, product value and rule value on moral thinking style in Study 8.*

|  | β | t | p | 95%CI |
|---|---|---|---|---|
| Power | -.17 | -2.15 | .034 | [-.87, -.04] |
| Subject | .03 | 0.41 | .68 | [-.34, .51] |
| Product value | .18 | 2.06 | .041 | [.02, .77] |
| Rule value | .16 | 1.80 | .076 | [-.03, .64] |
| Power × Product value | .20 | 2.33 | .021 | [.07, .82] |
| Power × Rule value | -.09 | -1.02 | .31 | [-.51, .82] |
| Power × Subject | -.13 | -1.53 | .13 | [-.75, .10] |

**Discussion**

This study examined how the goal related to chronic values that people held affected moral judgments. Study 7 showed that organisational goals can direct power holders' moral judgments, and this study aimed to study if the chronic values led to a similar effect to that of outer goals. We assessed rule and product value and found that power holders' utilitarian moral judgments are positively related to product value. Only power holders are goal orientated, while powerless individuals do not hold this tendency. Therefore, product value only guided the moral judgments of

powerful individuals, whilst it did not affect the moral judgments of powerless individuals. Power holders with higher product value made more utilitarian moral judgments consistent with their inner value.

Rule did not affect the moral judgments of power holders, because powerful participants naturally relied more on deontology when compared to powerless participants. No matter whether they endorsed rule value or not, they prefer to make more deontological moral judgments. Thus, rule value did not take effect.

The study showed the moderating effect of product value and the results are consistent with Study 7. Thus, besides the contextual active goals, chronic values can guide the moral judgments of the powerful.

## 4.4 Study 9: Power Increases Deontological Judgments via the Chronic Goal of Maintaining Authority

This study will first further examine the proposition that power increases moral flexibility across focal goals that differ in moral implications with stronger power manipulation. Also, authority maintenance will be tested if it affects the moral judgments of power holders than powerless individuals, and if this contributes to the joint effects of power and focal goals on moral judgments (see Figure 6).

This study manipulated power and focal goals (via organisational mission) (Overbeck & Park, 2006), and assessed the desire to maintaining authority. Compared to Study 7, Study 9 would use a stronger manipulation of power – the role-play task (Guinote et al., 2002) – to prime sense of power in this study. The

role-play task requires participants to act as powerful vs. powerless roles in a virtual context; this provides a vivid powerful/powerless experience close to the reality.

Authority refers to controlling over the right to make decisions and the resources in a group or organisation (Weber, 1968). It has been argued that power holders tend to maintain the current power structures and their authority (Boehm, 1992; Cummins, 2005; Fiske, 1993; Hall, 1964; Knight & Mehta, 2017; Pratto et al., 1999; Sapolsky, 2004; Willis et al., 2010). Maintaining authority facilitates power holders to keep their priorities and access to resources (Pratto et al., 1999), as well as to exercise their power effectively (Guinote, 2017). Rules, laws and regulations are generated to stabilise power structure (Lammers & Stapel, 2009, see also Sidanius et al., 2004; Sidanius et al., 2003), help advance collective goals and control subordinates (Habermas, 1975).

Thus, we assumed that this desire to maintain authority and contextual focal goals would together influence the preference for moral judgments by power holders. Desire for authority maintenance will orientate individuals towards rule-based moral reasoning, and this will play an enabling role of the interactive effects of power and focal goals on moral judgments (Vescio et al., 2005). When regulation-centred goal is activated, the desire for authority will reinforce rule-based moral judgments among power holders. When person-centred goals are activated, the chronic goal to maintain the authority contradicts with the contextual person-centred goal that benefits from outcome promote outcomes, and it would decrease the effect of contextual goals. This is the reason why powerful individuals in Study 7 did not

make more utilitarian moral judgments than powerless individuals under person-centred focal goals. Consequently, power holders would display deontological moral reasoning in regulation-based focal goal, and it would shift in the direction of utilitarian moral judgments in person-centred contexts. Powerless individuals would have less desire for authority structures and would not show this moral flexibility.

Lammers and Stapel (2009) found that rule-based thinking orientation explains the preference for rule-based moral judgments. However, we have measured the rule-based thinking orientation in previous studies (Studies 2, 3 and 5), and found no mediating effect of rule-based thinking orientation in the relationship between power and moral judgments. Thus, we argued that the desire for maintaining authority should be the mechanism instead of rule-based thinking orientation. Rule-based thinking was also assessed in this study to exclude its effect from the mechanism.

## Method

### Participants and Design

One hundred and forty participants (92 female, 48 male, $M_{age}$ = 24.59, $SD_{age}$ = 7.03) were recruited from Departmental participants pool, getting two and half pounds as compensation for participating in the study. Sample sizes were calculated for detecting a medium ($f$ = .25) effect for the interaction effect between power and goal focus on moral judgments with a desired power level of $p$ = .80 (Cohen, 1988), and a desired alpha error probability of $p$ = .05. A total of 128 participants were

required. We intentionally oversampled in a single wave of data collection to account for potential drop-outs. Participants were randomly assigned to one of a 2 (Power: high vs. low) × 2 (Goal activation: regulation-centred vs. person-centred) conditions between participants design.

**Materials and procedure**

The power and goal manipulation paradigm of Overbeck and Park (2006) was used. Participants attended the lab in groups of two to four. They were instructed that they would conduct a decision making task in a virtual organisational environment together with other participants.

Following Guinote, Judd and Brauer (2002), participants then completed a 10-item leadership questionnaire. Upon completion, they were told that the results of the leadership questionnaire would determine their roles in a group task. One of the participants would be manager (the high-power role), whereas the other participants would be employee(s) (low power). Participants were told that the manager is someone who is good at making decisions, and telling other participants what to do, while an employee works on tasks and follows instructions. In reality, half of the participants were randomly assigned to the leader position, and the other half were assigned to the employee position.

On completion, the experimenter pretended to calculate the questionnaire scores. Then she gave participants a booklet containing the role distributions used to manipulate power, the description of their roles and the instructions for the study. In the high power (HP) condition, participants read:

You are going to be the MANAGER of this workgroup. This means that you have skills to manage other people in your group, you fit more in a manager role than into an employee role. The other participant(s) in your group will be your subordinate(s), and you will supervise them (him or her) in a later group task.

Participants in the low power condition read the following material:

You are going to be an EMPLOYEE in this workgroup. This means that you have skills that are more of an employee, you fit more in an employee role than on a manager role. One person in your group will be your manager, and he/she will supervise all others in later group task.

After learning about their roles, participants were told that in the task, the

manager would create a company budget, and the employee(s) would request

funding for a project related to their functional area, and try to win funding for that

project. The manager had final authority over the budget. The employee(s) had to

make proposals and defend those proposals by persuading the manager and

answering questions. The manager had sole discretion in final budget decisions.

As part of the power manipulation, participants were also informed that "how

much payment an employee earns will depend on the manager's evaluations".

Employees were paid three and half pounds if the manager thought that their

proposals were really good. If the manager thought that any employee did not focus

on the proposal, they were paid one and half pounds. The payment of the manager

would be not affected by performance, and fixed at two and half pounds (Guinote et

al., 2002).

After this preview of the workgroup task, to verify that the power

manipulation was successful participants completed three questions on 9-point scales as in previous studies ($\alpha = 0.91$).

Participants were also told that they would firstly familiarize themselves with the current state of the company. To this end, they first read a brief introduction about the virtual company and made personal decisions related to the company. The introduction to the company contained a manipulation of the primary values held by the organisation and its mission. In the person-centred condition, participants read:

> Your company is a medium sized chemical company. The company was created 15 years ago and has gained a reputation for good service and a collegial relationship. The organisation puts people first and empathizes wellbeing among employees. Employees tend to focus on communication and collaborative pursuits. The company's mission statement emphasizes that it cares very much for employees and is concerned with making its people feel valued and included. Thus, the whole company has an atmosphere in which workers feel positive, engaged, and with a sense of belonging to the organisation.

In regulation-centred goal activation condition, participants read:

> Your company is a medium sized chemical company. The company was created 15 years ago and has gained a reputation for good service and ethical conduct. The organisation emphasizes transparency of procedures among co-workers and with the public. Employees normally tend to follow regulations. The company's mission statement emphasizes that all production and work should be done according to regulations. Thus, the whole company has an atmosphere, in which workers produce rigorously, strictly, and hope to perfectly finish their own work parts.

Then participants read the moral dilemma as Study 2 and were asked "If one employee in your company fitted the following situation, what would you think,?":

> *Mike is an employee in the company, but he is also a father of a three-year old child. Because the work in his department is related to*

*confidential information of the company, the company forbids employees*
*working at home. However, this day there is no other family members*
*who can take care of his child, but Mike has a deadline to catch up with.*
*The work is urgent, so Mike decides to take his work home to do at the*
*same time as taking care of his child.*

At the end of the dilemma, participants were asked to what extent was it appropriate for Mike to take work home? They rated the action on a nine-point scale from 1 (definitely NOT; *deontological moral judgment*) to 9 (definitely YES; *utilitarian moral judgment*).

The desire for authority maintenance and rule-based thinking orientation were measured on nine-point scales ranging from 1 (*strongly disagree*) to 9 (*strongly agree*). Firstly six questions adapted from right-wing authoritarianism scale (Altemeyer & Hunsberger, 1992) were administered to measure participants' motivation to maintain authority ($\alpha = .80$) (e.g. "I find that a consistent routine enables the company to run well." "The real key to a good company is discipline." "It is wonderful that employees can protest anything they don't like, and act however they wish."; see Appendix 8). Rule-based thinking was measured with four items ($\alpha = .73$; see Appendix 8), e.g. "To what extent do you consider transparency of procedures/ good service and ethical conduct is/are important?"

Then, all participants read a list of 20 statements (hereafter called "target items") about major events at the company right now: problems, accomplishments, and statements of current conditions. Among all of the items, 10 items stated issues about company's rules and regulation (regulation-centred) (e.g., "An independent

auditor has found that there are some unruly purchasing and accounting practices, which caused waste of money." "Some employees reported that some terms in the regulation handbook is out of date, and caused some misunderstandings during work."), and 10 items described things about employees concerns (person-centred)(e.g., "A group of employees hopes to start a mentorship training program, to make new employees' experiences more positive." "One of your researchers has just won a major international scientific prize."). All of the target items are presented in Appendix 9.

Participants in high power condition (as a manager) were told that they need to choose some items to write a report to the Board of Directors, while participants in low power condition (as a employee) were told that they need to choose the contents for the report written for the employee newsletter.

After reading all the items, participants were asked to choose the items which they hoped to write into the report, and rank the most important 10 items from 1 (the most important item) to 10 (the least important item). This ranking task was set to assess if participants' general decision makings were consistent with current goal activation. Finally, participants provided demographic data,

Participants handed in their personal decision-making questionnaire and believed that they would go on to the group (budgeting) task. However, the experimenter informed them that they would not be completing the workgroup task. They were debriefed, thanked, and released.

**Results**

**Manipulation Check**. Firstly we checked whether the power manipulation was successful. A 2 (Power) × 2 (Focal goal) ANOVA showed that the effect of power was significant, $F(1, 136) = 162.48$, $p < .001$, $\eta^2_p = 0.54$, 95%CI$_{High}$[7.09, 7.75] and 95%CI$_{Low}$[4.12, 4.77], while the effect of goal activation $F(1,136) = 0.74$, $p = .39$, $\eta^2_p = 0.005$, and the interaction effect, $F(1,136) = 0.74$, $p = .39$, $\eta^2_p = 0.005$, were not significant. Participants in high power condition ($M = 7.42$, $SD = 1.09$) felt more powerful, more control over the situation, and more influence on others, relative to those in the low power condition ($M = 4.45$, $SD = 1.61$). The focal goal manipulation did not affect participants' power experiences.

**Moral Judgments**. A 2 (Power) × 2 (Focal goal) ANOVA analysis on the moral decision about whether Mike should take work home showed that the effects of goal activation, $F(1,136) = .72$, $p = .40$, $\eta^2_p = .005$, and power, $F(1,136) = 0.50$, $p = .48$, $\eta^2_p = .004$, were not significant. However, there was a significant interaction effect of power and goal activation on moral judgment, $F(1,136) = 5.46$, $p < .05$, $\eta^2_p = 0.04$. As expected, participants in the powerful condition were more likely to think that Mike should follow the rule of the company and should not take work home under regulation-centred context than those in the person-centred context, $t(68) = -2.32$, $p = 0.024$, $d = 0.57$, 95%CI[-2.40, -0.18], while participants in the powerless condition did not make different moral judgments under the two types of context, $t(68) = 1.02$, $p = .31$, $d = 0.25$, 95%CI[-0.57, 1.77] (see Table 10). Meanwhile, under regulation-centred goal activation high power participants made more deontological moral judgments than low power participants, $t(68) = -2.09$, $p =$

0.041, *d* = 0.50, 95%CI[-2.40, -0.05], while under person-centred goal activation,

this difference did not occur, *t*(68) = 1.19, *p* = 0.24, *d* = 0.28, 95%CI[-0.44, 1.76].

Table 10

*Means and statistical test scores as a function of power and goal activation on moral*

*judgments in study 9.*

| Power | Goal | Mean(SD) | 95%CI | *t* | df | *p* | *d* |
|---|---|---|---|---|---|---|---|
| Low power | Person-centred | 3.77±2.14 | [2.97, 4.57] | 1.024 | 68 | 0.309 | 0.25 |
| | Regulation-centred | 4.37±2.72 | [3.57, 5.17] | | | | |
| High power | Person-centred | 4.43±2.46 | [3.63, 5.23] | -2.316 | 68 | 0.024 | 0.57 |
| | Regulation-centred | 3.14±2.17 | [2.35, 3.94] | | | | |

*Note.* High values mean utilitarian moral judgment.

Table 11

*Descriptive statistics and bivariate correlations.*

| Variable | M | SD | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|---|
| 1. Power | 0.00 | 1.00 | | | | |
| 2. Goal activation (GA) | 0.00 | 1.00 | .00 | | | |
| 3. Authority maintenance (AM) | 5.15 | 1.32 | .19** | -.04 | | |
| 4. Rule thinking (RT) | 7.47 | 0.96 | .25** | .15 | .17 | |
| 5. Moral judgment (MJ) | 3.93 | 2.42 | -.06 | -.07 | -.19* | -.02 |

*Note.* * *p* < .05, ** *p* < .01.

**Authority Maintenance and Rule-Based Thinking.** Table 11 presents the

descriptive statistics and bivariate correlations among all the variables. The

hypotheses were tested with PROCESS from Hayes (2013) to estimate conditional

indirect effects in the mediated moderation model (Model 5). We used bootstrapping

to calculate the 95% confidence intervals (5000 resamples) to assess the significance

of the indirect effects. This model examined whether authority maintenance (AM)

and rule thinking orientation (RT) mediated the statistical effect of power on the

moral judgment (MJ) choice, and at the same time moral judgments were affected by

the interactive effect of power and goal activation (GA) (see Figure 6 and 7).
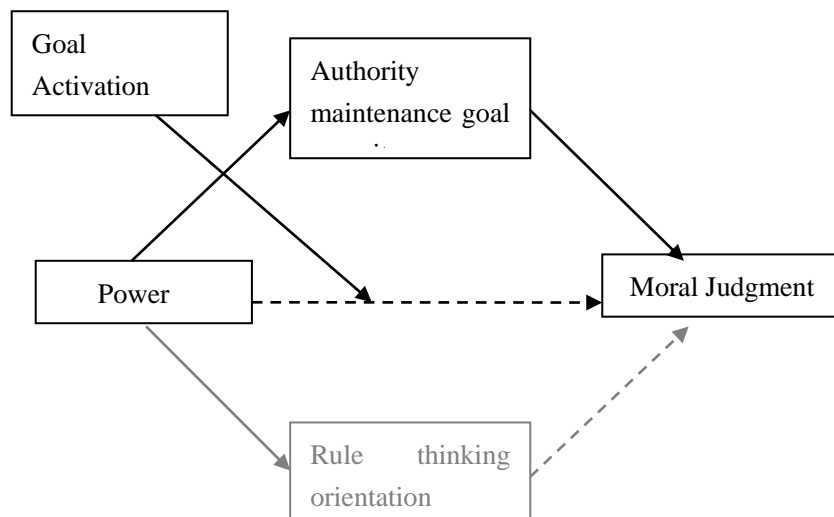


*Figure 6.* Mediation model for moral judgments in Study 9. The interaction of power

and focal goal manipulation influenced moral judgment, and power was associated

with moral judgments through desire for authority maintenance. There was no

indirect statistical effect through rule thinking orientation. Bold lines indicate

significant effects, dotted lines indicate non-significant effects. Significant indirect

effects were presented in black, and non-significant in grey.

In this model, we tested a first- and second- stage mediated model. The test

involved estimating two equations:

$$AM = a0 + a1 \text{ Power} + e \tag{1}$$

$$RT = b0 + b1 \text{ Power} + e \tag{2}$$

$$MJ = c0 + c1 \text{ Power} + c2 \text{ GA} + c3 \text{ AM} + c4 \text{ Power} \times \text{GA} + e \tag{3}$$

Tables 12 and 13 present regression coefficients and simple effects for moral judgments, respectively. Firstly, power positively predicted the motivation to maintain the authority, $b = 0.25$, SE $= 0.11$, $t = 2.14$, $p < 0.05$, $R^2 = 0.03$, 95% CI [0.02, 0.47], and positively predicted rule thinking, $b = 0.24$, SE $= 0.08$, $t = 2.92$, $p < 0.01$, $R^2 = 0.06$, 95% CI [0.08, 0.40]. Independently of goal activation, participants in the powerful condition showed an elevated motivation to maintain their authority and higher rule thinking orientation compared to those in the powerless condition.

Then, results showed a significant power $\times$ goal activation interaction on moral judgments, $b = -.42$, SE $= .21$, $t = -2.03$, $p < .05$, 95% CI [-.83, -.01]. As expected, goal activation modified the association between power and moral judgments. Consistent with the idea that power is not stably associated with a specific moral thinking style, we found no direct relation between power and moral judgments, $b = .02$, SE $= .21$, $t = -1.45$, $p = .92$, 95% CI [-.40, .44].

Authority maintenance motivation predicted moral judgments, $b = -.37$, SE $= 0.16$, $t = -2.31$, $p < .05$. People with higher authority maintenance motivation were more likely to make deontological decisions than those with lower desire to maintain the authority. The interactive effect of power and focal goals on moral judgments was not significant after including authority maintenance desire into analysis. The

indirect effect was significant, $\beta$ = -.09, SE = 0.06, 95% CI [-.26, -.01]. There was

a mediating effect of authority maintenance motivation in the relationship between

power and moral judgments depended on goal activation (see Figure 6 and 7).

However, there was no significant relationship between rule thinking

orientation and moral judgments, $b$ = .04, SE = 0.23, $t$ = 0.16, $p$ = .87, 95%CI[-0.42,

0.49], which means rule thinking orientation did not mediate the association between

power, focal goal and moral judgments.
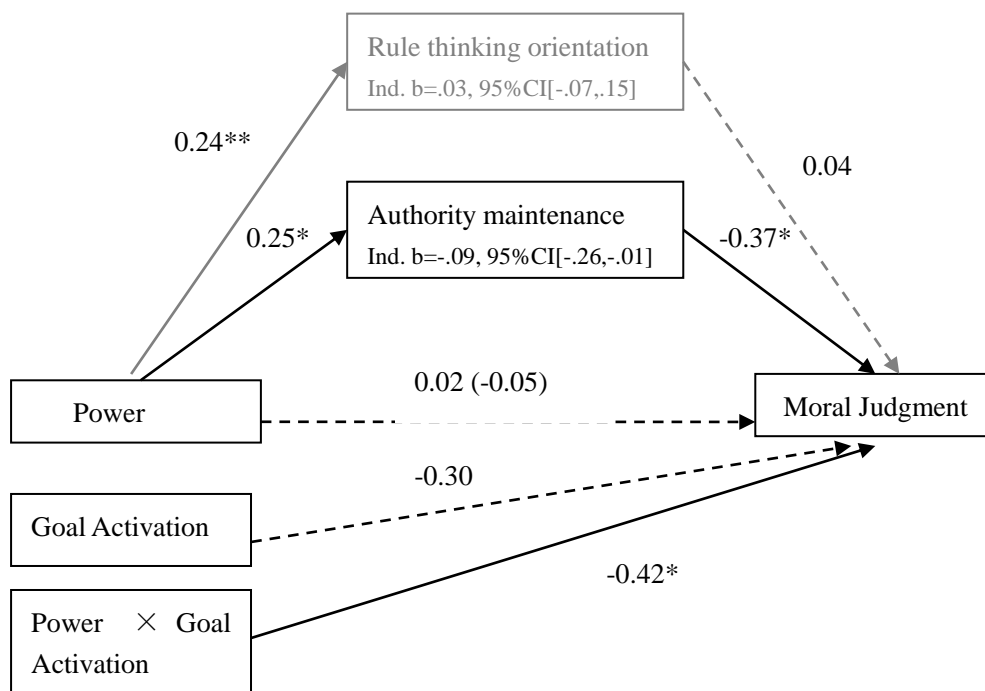


* $p < .05$. ** $p < .01$.

*Figure 7.* The statistics diagram of the model in fig 6.

Table 12

*Coefficient estimates for the Mediated Moderation Model for moral judgment.*

| Variable | Dependent variable = Moral judgment | | | |
|---|---|---|---|---|
| | $b$ | SE | $t$ | 95%CI |
| Constant | 5.73 | 0.85 | 6.72 | [4.04, 7.42] |
| Power | 0.02 | 0.21 | 0.10 | [-0.40, 0.44] |
| GA | -0.30 | 0.21 | -1.45 | [-0.71, 0.11] |
| Power $\times$ GA | -0.42 | 0.21 | -2.03* | [-0.83, -0.01] |
| AM | -0.37 | 0.16 | -2.31* | [-0.70, -0.05] |
| $R^2$ | | .08 | | |
| $F$ | | 2.74* | | |

*Note.* * $p < .05$.

Table 13

*Conditional effects across the low and high levels of focal goals manipulation for*

*moral judgment.*

| Variable | Direct effect | | | |
|---|---|---|---|---|
| | Effect | SE | t | 95%CI |
| GA Low | 0.44 | 0.29 | 1.55 | [-0.12, 1.01] |
| GA High | -0.40 | 0.31 | -1.31 | [-1.01, 0.21] |

**Target Items.** We used a 2(Power) $\times$ 2 (Focal goal) ANOVA analysis on how

many regulation-related items were ranked in the top 10 items. There was a main

effect of power, $F(1,136) = 23.37$, $p < .001$, $\eta^2_p = 0.15$. Participants in high power

condition ($M = 5.41$, $SD = 1.46$) were inclined to list more regulation-related items in

the top 10 items compared to those in low power condition ($M = 4.17$, $SD = 1.58$).

The effect of focal goal, $F(1,136) = 1.63$, $p = .20$, $\eta^2_p = 0.012$, and the interactive

effect of power and focal goal, $F(1,136) = .25$, $p = .62$, $\eta^2_p = 0.02$, were not

significant.

## Discussion

Study 9 generated a stronger effect compared to Study 7 by using the
role-play paradigm to prime participants' sense of power, and by conducting the
whole experiment in a consistent organisational environment. The results confirmed
the previous findings about the moral flexibility of power holders. The powerful
direct their moral thinking style according to the requirements of current focal goals,
while the powerless do not show this tendency.

Study 9 found that authority maintenance could explain the relationship
between power and moral judgments. This is consistent with the theory of Cummins
(2005, 2000, 1999). High social status individuals have natural tendencies to enforce
the current hierarchy relationship, regulation, structure and authority (Bugental, 2010;
Knight & Mehta, 2017; Sapolsky, 2004; Willis, Guinote, & Rodriguez-Bailon, 2010).
All of these help high-ranking individuals to protect their priority to access to
resources (Pratto et al., 1999). Lammers and Stapel (2009) found that rule-based
thinking orientation mediated the effect of power on moral judgments. The current
research did not find that rule thinking could mediate the relationship between power
and moral judgments, which is consistent with the findings in Study 7. That is, the
powerful do not always follow deontology to make moral judgments. Actually, they
possess a higher desire to maintain the authority, which explains the moral
judgments of the powerful across different goal activations. Although participants in
the powerful condition showed different preferences in moral judgments under two

types of focal goals related to organisational missions, increased power always leads to higher authority maintenance motivation; this explains their moral judgments.

The desire to maintain authority is a generic and chronic goal of power holders that is not affected by context-triggered rule-based thinking: it can co-exist together with other salient goals; and it increases rule-based judgments in rule-based contexts and conflict with outcome-based moral judgments in outcome-centred context, thus decreasing the level of outcome-based reasoning.

However, authority maintenance did not explain directly why power holders would modify their moral judgments under different goal activations, so the next study shall focus on this issue.

## 4.5 Study 10: The Mediating Role of Goal Commitment

In Study 10, we sought to establish more direct evidence for the role goal focus has on the association between power and rule-based moral thinking style. While the desire for authority can enable the influence of power and focal goals on moral judgments, this does not explain how this occurs; that is, which mental processes are responsible for these effects. We propose that this occurs through enhanced goal-related motivation. Specifically, we hypothesise that focal goals stemming from the context of power relations are more important for powerful, rather than powerless individuals. The importance of a goal in turn influences how committed people are to the pursuit of the goal (Locke & Latham, 2002). In this study, goal commitment (Hollenbeck et al., 1989) will be assessed. As participants

were recruited from a pool of students, to make the experimental design close to their past experiences, we used a similar experiment design to Study 9 and adapted the organisational context to a high school context.

Goal commitment is defined as "one's determination to reach a goal" (Locke & Latham, 1990), meaning the intention to devote efforts and time towards goal attainment, persistence in pursuing the goal in difficulties and unwillingness to give up (Hollenbeck & Klein, 1987; Klein et al., 2001; Locke et al., 1981). Goal commitment motivates goal pursuit persistence and the seeking of opportunities to advance the goal (Heckhausen, 1977), and facilitates later behaviours' performance (McCaul et al., 1987; Pallak et al., 1980; Seo et al., 2018), cognitive strategies (Gollwitzer, 1990) and decision making (Janis & Mann, 1977) consistent with the goals that individuals commit to. Meanwhile, leadership could also predict higher goal commitment (Geijsel et al., 2003). Thus, we expected that, in specific moral judgment areas, power holders would more strongly commit to the focal goal and this high goal commitment would guide them to make judgments consistent with the focal goal that they commit to. However, the goal commitment view would not be related to any specific moral theory, and it should be dependent on active goals.

In addition, the powerful may attach more importance to the organisational goals than the powerless. To rule out this potential influence, we also measured the level of importance that participants attached to the active goal.

We developed the following hypotheses. Firstly, as previously stated, we hypothesised that focal goals would moderate the relationship between power and

moral judgments. Secondly, the joint effects of power and goals on moral judgments would be mediated by goal commitment; that is, goal commitment would be stronger for powerful compared to powerless participants, which would facilitate the appropriate moral choices consistent with goals. Noteworthy is the fact that goal commitment per se would not directly affect moral thinking. The links between goal commitment and moral reasoning should be dependent on the type of goal at hand (see Figure 8), following a moderated mediation model (Hayes, 2018; Muller, Judd, & Yzerbyt, 2005).

## Method

### Participants and Design

One-hundred and forty-two participants (101 female, 41 male, $M_{age}$ = 24.15, $SD_{age}$ = 7.28) were recruited from the Departmental participants pool. They received two and half pounds as compensation for participating in the study. Sample sizes were calculated for detecting a medium ($f$ = .25) effect for the interaction effect between power and goal focus on moral judgments with a desired power level of $p$ = .80 (Cohen, 1988), and a desired alpha error probability of $p$ = .05. A total of 128 participants were required. We intentionally oversampled in a single wave of data collection to account for potential drop-outs. Participants were randomly assigned to one of a 2 (Power: high vs. low) × 2 (Focal goal: regulation-centred vs. person-centred) conditions, in a between participants design.

### Materials and procedure

Participants were instructed that they would conduct a decision making task

in a virtual high school environment together with another participant who was in another room. They would respectively take the role either of the principal of the school or of a high school student. In fact, there was not another participant.

Participants then completed a 10-item leadership questionnaire as Study 9. They were then told that the results of the leadership questionnaire would determine their roles in the group task. In reality, half of the participants were randomly assigned to the principal position, and the other half were assigned to the student position. On completion, the experimenter calculated their scores, and gave participants a booklet that contained their role distribution results, their role descriptions and the instructions for the study. In the high-power (HP) condition, participants read:

> You are going to be the PRINCIPAL of the virtual group in this experimental task. This means that you have skills to manage the "student" in your group; you fit more in a leader role. The other participant in your group will be student, and you will supervise them in a later group task.

Participants in the low power condition read the following material:

> You are going to be the STUDENT of the virtual group in this experimental task. You fit more in a student role than on a principal role. The other person in your group will be the principal, and he/she will supervise you in a later group task.

After learning about their roles, participants were told that in the task, the "principal" would create a plan to improve the school for the new term, and hoped to fully learn what "students" thought about the improvement plan. The "student"

would propose the issues that they were concerned, and try to persuade the "principal". The "principal" would finally evaluate how good the suggestions they would give were, and decide whether to put their suggestions forward to be considered for implementation. In order to stress the effect of the power manipulation, participants were also informed that "how much payment the 'student' earned would depend on 'principal's' evaluations" as in Study 9.

After this preview of the group task, participants were told that they should firstly familiarise themselves with the current state of the high school, and complete the individual decision making part before moving into group task. They received a booklet of questionnaires. To verify that the power manipulation was successful they completed three questions on nine-point scales as previous studies.

The introduction to this school contained a manipulation of the primary values held by the school. In the "person-centred" condition, participants read:

> Your high school was created 15 years ago and has a short history. However, the school has not gained a good reputation for the quality of students. Some students here show bad habits, for instance playing with the phone during classes and study time, attending class late, and delaying submitting homework. Some students come from families with problems, and lack care from family. Thus, the school thinks that giving more care to students in teaching and studying activities may be a good way to change their bad behaviour habits. In so doing this the school hopes to change the current situation and create an atmosphere full of care, love and harmony. This goal needs the participation of all people in the school.

In "regulation-centred" condition, participants read:

> Your high school was created 15 years ago and has a short history.

However, the school has not gained a good reputation for the quality of students. Some students here show bad habits, for instance playing with phone during classes and study time, attending class late, and delaying submitting homework. Thus, the school plans to set up a series of regulations for teaching and studying activities. In so doing the school hopes to change the current situation and create a good study atmosphere with everything in good order. This goal needs the participation of all people in the school.

We then measured participants' goal commitment towards the goals that they read above on nine-point items (1 _ strongly disagree, 9 _ strongly agree; α = .88), for example, "It's hard to take this goal seriously." "I am strongly committed to pursuing this goal."(Hollenbeck, Klein, O'leary, & Wright, 1989). Then the levels that the goals are relevant to the organisation and self were measured to control their effects in the relationship between power, goal commitment and moral judgments. Two questions were about goal value to the school (α = .88), including "To what extent do you think this goal benefits the whole school?", and "To what extent do you think this goal is important for the development of the whole school?" Two questions were about the goal value to their self-interests, including "To what extent do you think this goal benefits yourself and your career?", and "To what extent do you think this goal is consistent with your own interests?" (α = .78)

Then all participants read the moral dilemma and made judgments. The moral dilemma was created according to the features of low conflict dilemma as Lammers and Stapel's (2009) research, and was tested in a pilot study. The dilemma was as the follow:

*The school maintains the following rule about using the science lab:*

*The person who used this lab should take responsibilities for all the things in the lab during its use. In order to keep safe, the user should put all the materials back to the closet, and close the door and the window when he/she leaves. If the student does not follow the regulation of the lab, then he/she will be cancelled the right to use the lab for a period of time. This day, John conducted his experiment in the lab. The last user before him forgot to put one bottle of medicine back in the closet, and this bottle of chemical was lost before John came. However, John also did not notice this and did not report this to teacher. At last, the teacher found that this medicine is lost after John used the lab.*

At the end of the dilemma, participants were asked "What do you think should the teacher do?" They rated the action on a nine-point scale from 1 (follow the rule, and cancel the right of John to use the lab; *deontological* moral judgment) to 9 (make an exception, and not cancel the right of John to use the lab; *utilitarian* moral judgment).

Then, participants were told that they plan to organise other teachers/students to set up a detailed new lab and experiment operation regulations as well as a training course for the students. They answered an open-ended question (Guinote, 2007c): "When do you want to start working on this task?" They were also answered questions about their demographic information.

At this point, participants handed in their individual decision-making questionnaire and believed that they would go on to the group (proposal) task. However, the experimenter informed them that they would not be completing the

workgroup task. They were debriefed, thanked, and released.

## Results

**Manipulation Check.** We checked whether the power manipulation was successful. A 2(Power) × 2 (Goal activating) ANOVA showed that the effect of power was significant, $F (1, 138) = 50.07, p < .001, \eta^2_p = 0.27$, 95%CI$_{High}$[6.87, 7.55] and 95%CI$_{Low}$[5.16, 5.83], while the effect of goal activation $F (1,138) = 0.31, p = .86, \eta^2_p < 0.001$, and the interaction effect, $F (1,138) = 0.53, p = .82, \eta^2_p < 0.001$, were not significant,. Participants in the high power condition ($M= 7.21, SD= 1.01$) felt more powerful, more control over the situation, and more influence over others, relative to those in the low power condition ($M= 5.49, SD=1.75$). Goal focus manipulation did not affect participants' power feelings.

Table 14

*Means and statistical test scores as a function of power and goal activation on moral judgments in study 8.*

| Power | Goal | Mean | 95%CI | t | df | p |
|---|---|---|---|---|---|---|
| low power | person-centred | 5.77±2.30 | [4.97, 6.58] | 1.61 | 68 | .11 |
| | regulation-centred | 6.61±2.46 | [5.82, 7.40] | | | |
| high power | person-centred | 6.63±2.16 | [5.89, 7.37] | -2.12 | 68 | < .05 |
| | regulation-centred | 5.44±2.21 | [4.72, 6.17] | | | |

*Note.* High values mean utilitarian moral judgments.

**Moral Judgments.** A 2(Power) × 2 (Focal goal) ANOVA analysis on the moral decision about whether the teacher should cancel the right of John to use the lab show insignificant effects of goal activation, $F(1, 138) = 0.20, p = .65, \eta^2_p =$

0.001, and power, $F(1, 138) = 0.16$, $p = .69$, $\eta^2_p = 0.001$. However, there was an expected significant interaction of power and goal setting on moral judgment, $F(1,138) = 6.95$, $p = .009$, $\eta^2_p = 0.05$. Participants in the powerful condition were more likely to think that the teacher should follow the rule to cancel the right of John to use the lab under the regulation-centred context than the person-centred context, $t(70) = -2.12$, $p = .038$, $d = 0.50$, 95%CI[-2.22, -0.15], while participants in powerless condition did not make different moral judgments under two types of context, $t(68) = 1.61$, $p = 0.11$, $d = 0.39$, 95%CI[-0.29, 1.97]. Under regulation-centred goal activation, high power participants were more likely to make deontological moral judgments than low power participants, $t(69) = -2.28$, $p = 0.025$, $d = 0.54$, 95%CI[-2.27, -0.07], while this difference did not occur under person-centred goal activation, $t(69) = 1.48$, $p = 0.14$, $d = 0.35$, 95%CI[-0.21, 1.92] (see Table 14). Participants in the high power condition shifted their judgments in line with the goal activation, and those in the low power condition did not show this tendency.

This remained the case after controlling for the potential impact of goal importance to the organisation and individual. The effects of goal activation, $F(1, 136) = 0.34$, $p = .56$, $\eta^2_p = 0.002$, and power, $F(1, 136) = 0.54$, $p = .47$, $\eta^2_p = 0.004$, were not significant. There was a significant interaction between power and goal setting on moral judgment, $F(1,136) = 6.66$, $p = .011$, $\eta^2_p = 0.05$.

Table 15

*Descriptive statistics and bivariate correlations.*

| Variable | M | SD | 1 | 2 | 3 |
|---|---|---|---|---|---|
| 1. Power | 0.00 | 1.00 | | | |
| 2. Goal activation (GA) | 0.01 | 1.00 | - | | |
| 3. Goal commitment (GC) | 6.62 | 1.28 | .34** | .15 | |
| 4. Moral judgment (MJ) | 6.11 | 2.32 | -.04 | -.04 | .03 |

*Note. **p< .01.*
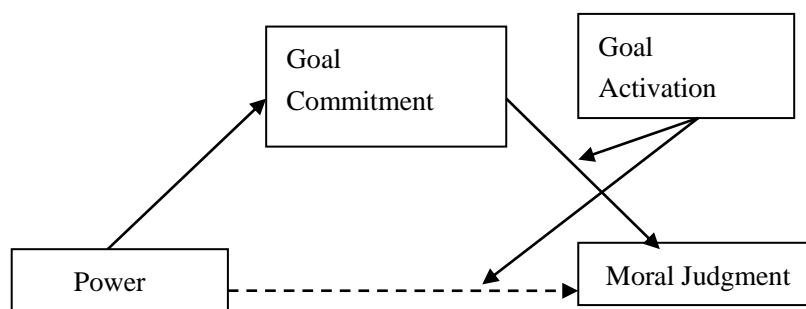


*Figure 8.* Mediation model for moral judgments in Study 10. The interaction of

power and goal activation influenced moral judgment, and power was associated

with moral judgments through the interactive effect of goal activation and goal

commitment. Bold lines indicate significant effects, dotted lines indicate

non-significant effects.

**Goal Commitment.** Table 15 presents the descriptive statistics and bivariate

correlations among all the variables. We investigated whether goal activation (GA)

moderated the relationship between power and moral judgments (MJ) via goal

commitment (GC) (see Figures 8 and 9). To this end, the hypotheses were tested

with the PROCESS from Hayes (2018) that uses ordinary least square to estimate

conditional indirect effects in moderated mediation models (Model 15). We used bootstrapping to calculate the 95% confidence intervals (5000 resamples) to assess the significance of the indirect effects.

In this model, we tested a first- and second- stage moderated mediated model. The test involved estimating two equations:

$$GC = a0 + a1\ Power + a2\ GA + a3\ Power \times GA + e \tag{1}$$

$$MJ = b0 + b1\ Power + b2\ GC + b3\ GA + b4\ Power \times GA + b5\ GC \times GA + e \tag{2}$$

Tables 16 and 17 present regression coefficients and simple effects for moral judgments, respectively. Results showed a significant effect of power $\times$ goal activation on moral judgments, $\beta = -.68$, SE = .20, $t = -3.38$, $p < .01$, 95%CI[-1.08, -0.28]. As ANOVA analysis above, goal activation modified the association of power and moral judgments. Consistent with the idea that power is not stably associated with specific moral thinking style, and opposite choices associated with different goal activations can cancel each other out, we found no direct relation between power and moral judgments, $\beta = -.14$, SE = .20, $t = -0.70$, $p = .48$, 95%CI[-.54, .26]. In addition, power positively predicts goal commitment, $\beta = .44$, SE = 0.10, $t = 4.33$, $p < .001$, 95%CI[.24, .64]. Under whatever types of focal goals, participants in powerful condition showed an elevated goal commitment compared with those in powerless condition.

There was also a significant interaction of goal commitment and goal activation on moral judgments, $\beta = .39$, SE = 0.16, $t = 2.44$, $p < .05$, 95%CI[.07, .71]

(see Table 17). Goal commitment predicted more deontological moral judgments under regulation-centred goal activation, while goal commitment was marginally positively related to more utilitarian judgments under person-centred focal goal. The interactive effect of power and goal activation on moral judgments was still significant but reduced after including goal commitment×goal activation in the analysis. The mediating effect was significant, $\beta$ = .34, SE = 0.17, 95%CI[.05, .72]. The partial mediating effect of goal commitment in the relationship between power and moral judgments depended on goal activation (see Figure 8 and 9).

When the focal goal was regulation-centred, the greater goal commitment of power holders enhanced goal consistent moral reasoning leading to rule-based moral judgments. Conversely, when the focal goal was person-centred the greater goal commitment of power holders facilitated outcome-based reasoning, shifting power holders' judgments towards the optimization of outcomes.

Table 16

*Coefficient estimates for the Moderated Mediation Model for moral judgment.*

| Variable | Dependent variable= Goal commitment | | | | Dependent variable = Moral judgment | | | |
|---|---|---|---|---|---|---|---|---|
| | *a* | SE | *t* | 95%CI | *b* | SE | *t* | 95%CI |
| Constant | 6.62 | 0.10 | 65.28*** | [6.42, 6.82] | 5.26 | 1.07 | 4.89 | [3.13, 7.38] |
| Power | 0.44 | 0.10 | 4.33*** | [0.24, 0.64] | -0.14 | 0.20 | -0.70 | [-0.54, 0.26] |
| GA | | | | | -2.69 | 1.07 | -2.50* | [-4.81, -0.57] |
| Power × GA | | | | | -0.68 | 0.20 | -3.38** | [-1.08, -0.28] |
| GC | | | | | 0.12 | 0.16 | 0.74 | [-0.20, 0.43] |
| GC × GA | | | | | 0.39 | 1.60 | 2.44* | [0.74, 0.71] |
| R² | | .12 | | | | .09 | | |
| F | | 18.75*** | | | | 2.80* | | |

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

Table 17

*Simple effects across the low and high levels of goal activation for moral judgment.*

| | Direct effect | | | | Indirect effect | | |
|---|---|---|---|---|---|---|---|
| Variable | Effect | SE | *t* | 95%CI | Effect | SE | 95%CI |
| GA Low (person-centred) | .54 | 0.28 | 1.90+ | [-0.02, 1.10] | -0.12 | 1.42 | [-0.44, 0.13] |
| GA High (regulation-centred) | -0.82 | 0.29 | -2.87** | [-1.39, -0.26] | 0.22 | 0.11 | [0.05, 0.51] |
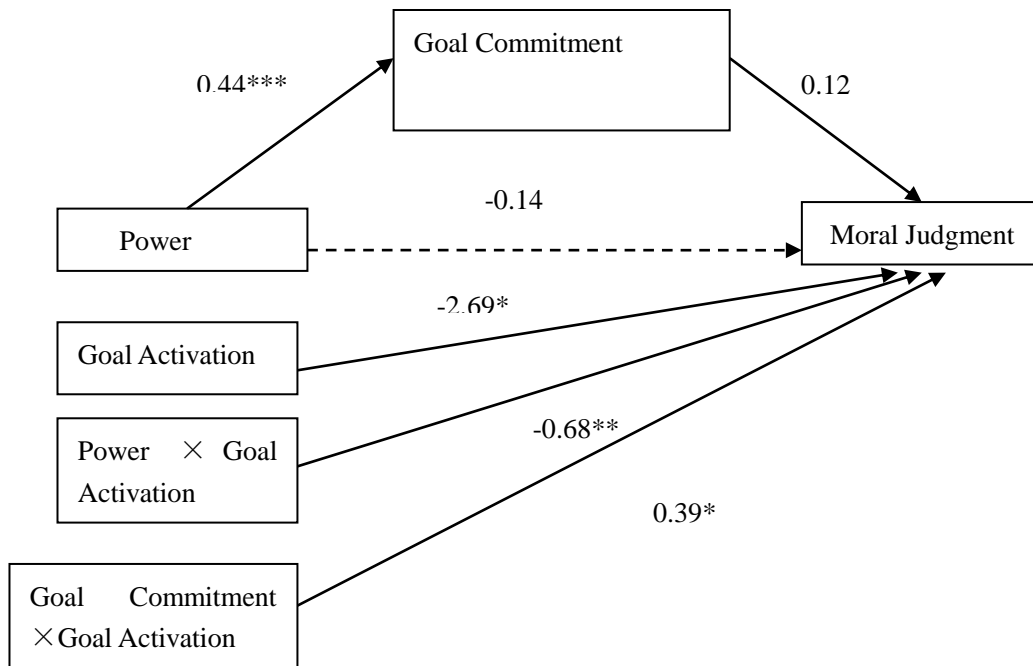
*Note. +p < .10, **p< .01.*



*Figure 9.* The statistics diagram of the model in fig 8.

**Initiating Action.** Regarding the question about when participants planned to

initiate action to organisation teachers (students) to set up the new lab regulation, a

2(Power) × 2 (Focal goal) ANOVA analysis was done. There was a main effect of

power, $F(1,138) = 5.37$, $p = .022$, $\eta^2_p = 0.037$. Participants in high power condition ($M = 3.44$, $SD = 6.94$) planned to initiate the task in time compared to those in low power condition ($M = 12.80$, $SD = 33.41$). The effect of focal goal, $F(1,138) = 2.79$, $p = .097$, $\eta^2_p = 0.020$, and the interactive effect of power and focal goal, $F(1,138) = 2.55$, $p = .11$, $\eta^2_p = 0.018$, were not significant.

## Discussion

This study examined the assumption that goal commitment mediated the relationship between power and moral judgments. Study 9 showed that the commitment to the specific goal can partially explain the moral judgments of power holders. However, the power goal commitment-moral judgment relation was also moderated by specific goal activation. Power holders tend to use the moral judgments consistent with the current goal activation. Power increases moral flexibility via increased goal commitment to current goals. These findings are consistent with past research showing that power holders flexibly deploy cognitive strategies that best serve the attainment of salient goals (Guinote, 2007c; Overbeck & Park, 2006; Schmid et al., 2015).

### 4.6 Summary and Outlook

Four studies examined whether the moral reasoning of the powerful served their activated goals via goal commitment and the motivation to maintain the authority. We manipulated sense of high/low power and assessed participants' responses for moral dilemmas in the contexts linked with different contextual goals.

Also, we assessed the motivation to maintain authority in Study 9 and goal commitment in Study 10.

The results showed that moral judgments of the powerful are flexible and serve their current goals. The powerful relied on deontological moral theory to make moral judgments under regulation-centred goal activation, and tended towards utilitarian moral choices under person-centred goal activation. This tendency did not occur in the powerless. Also, product value positively predicted utilitarian moral judgments of the powerful, but not the judgments of the powerless. We also unveiled the mechanism underlying the link between possession of power and moral reasoning. Power holders more strongly committed to the active focal goals, which led to moral reasoning serving current goals compared to powerless individuals. Meanwhile, a desire to maintain authority contributes to the effects of power on moral reasoning. To effectively enact their roles, power holders must have stable authority and are motivated to maintain the hierarchy (e.g., Fiske & Depret, 1996; Willis & Guinote, 2011; Lammers & Stapel, 2009; Vescio et al., 2005).

In Study 7, we explored the role of goal activation in the association of power and moral judgments. We induced regulation-centred/person-centred focal goals, finding that the moral judgments of participants with stimulated position power were guided by the focal goal manipulation. Power holders' moral judgments follow their goals. If moral judgments checking existing rules are consistent with specific organisational goals, then power holders relied on deontology to make moral judgments. In contrast, when the organisational goal benefited from outcomes, they

modify their judgments more when compared with the powerless and people with neutral perspectives. Study 8 examined the effect outside a laboratory setting and assessed participants' subject and perception of the product and rule value in their context. The results showed that the product value could modify the moral judgments of the powerful, but not those of the powerless. This study increases the ecological validity of the findings.

Study 9 further tested the effect by manipulating power with a role-play task, and meanwhile examined the motivation to maintain the authority as the underlying process. The results showed that the desire for authority maintenance contributes to explain the preferences for the deontological moral reasoning of the powerful. The desire to maintain authority is a generic goal of power holders that is not affected by context-triggered rule-based thinking. Not only can it co-exist together with other salient goals, it increases rule-based judgments in rule-based contexts and conflict with outcome-based moral judgments in outcome-centred context decreasing the level of outcome-based reasoning.

Study 10 examined goal commitment, and found that higher goal commitment mediated the association between power and focal goals on moral judgments. This mediating effect depended on the condition of goal activations. When the goal was aligned with rule-based principles, enhanced goal commitment among power holders led to a preference for rule-based moral reasoning. However, when the goal was focused on serving people (i.e., was outcome focused), power holders were equally committed and shifted towards outcome-related moral

reasoning; this resulted in a significant mediated moderation-of-power and focal

goals via goal commitment.

The relationship between power and moral judgments is a complex issue, and

various contextual mechanisms exist. Authority maintenance is an overarching aim

of power holders, and the goal commitment acts as a

cognitive/motivational mechanism that aids the pursuit of specific goals.

## Chapter 5: General Discussion

### 5.1 Overview

This chapter reviews the main findings of the whole research. Section 5.2 focuses on the generalisability of the relationship between power and moral judgments in different contexts, including different settings, culture, boundary conditions relating to harming to life, and the possible mechanism roles of cognitive processing style and goal focus. In so doing, we expect to gain a much-needed understanding of the links between power and moral judgments. Section 5.3 summarises the theoretical and practical implications of the present research, while Section 5.4 discusses the limitation and alternative explanations for the present findings.

### 5.2 Summary of the Present Research

### 5.2.1 Replication

Two studies replicated a previous finding by showing that possession of power triggers deontological moral reasoning (Lammers & Stapel, 2009). They were exact and conceptual replications in experimental and naturally occurring settings in the United Kingdom and China. The effect was examined in organisational environments to test the generalisability. The role of culture was also considered in this article. The results across two studies consistently supported the hypothesis that power holders prefer to engage in deontological reasoning.

Study 1 exactly replicated the original study (Study 3a in Lammers and Stapel, 2009), showing that having power leads to a preference for deontological (rule-based) moral thinking style, while lacking power leads to a preference for utilitarian (outcome-based) moral thinking style. In Study 2, the effect was examined in a sample of participants from organisational environments in China. Prior findings were again successfully replicated; this showed that the proposed link between power and moral thinking style can be generalised to natural settings and different cultures.

**5.2.2 How Harm Modifies the Association Between Power and Moral Judgments**

The present research established boundaries of the effects of power on moral judgments. Dilemmas in the presence of harm elicit moral intuition and decrease utilitarian moral judgments (e.g., Cushman et al., 2006; Loewenstein & Small, 2007; Mikhail, 2007; Slovic, 2007). Given power holders have already relied on deontological moral judgments in dilemmas with the absence of harm, we reasoned that the moral reasoning of powerful individuals would not be modified by different types of dilemmas. In contrast, people without power and the powerless would decrease their utilitarian moral thinking in dilemmas with serious harm when compared with in those without harm (Greene et al., 2001; Hauser et al., 2007; Waldmann & Dieterich, 2007). Consequently, the presence of physical harm nullified the difference in moral judgments of the powerful and the powerless.

Two studies examined how physical harm in dilemmas modifies the association between power and moral reasoning. The research extended the existing studies by considering the presence or absence of harm to life. The physical harm in dilemmas was studied by setting whether the targets were men or objects (sculptures) with ownership (Millar et al., 2014). Study 3 used the footbridge dilemma with personal involvement, while Study 4 used an impersonal trolley dilemma. Consistently, possession of power was associated with deontological, rule-based reasoning.

Contrary to Lammers and Stapel's (2009) argument, power does not always affect moral reasoning. Power only affected moral reasoning in dilemmas when harm to life was absent. When harm was presented, the differences in moral judgments between the powerful and the powerless were eliminated. Thus, facing important decisions concerning the value of life, power does not influence the way people think and their decisions in the moral domain.

By adding a control group, Study 3 found that the different judgments obtained between the powerful and the powerless conditions were specifically caused by having power. Lacking power did not affect moral reasoning when compared to the control condition, while possession of power increased deontological moral reasoning in dilemmas without harm.

### 5.2.3 Power, Cognitive Processing Style and Moral Judgments

Chapter 4 aimed to explore the mechanism of the different moral reasoning

of the powerful and the powerless from the perspective of cognition. The studies supported the hypotheses that power increases intuitive thinking (e.g., Briñol et al., 2012; Weick & Guinote, 2008) that drives more use of deontological moral judgments, and lacking power tended to process information deliberatively (e.g., Guinote, 2007a, b), thus leading to more utilitarian moral judgments.

How people process information and their mental operations during judgments are variables difficult to measure (Haidt, 2001, 2007; Nisbett & Wilson, 1977; Uleman & Bargh, 1989). As suggested by Spencer et al. (2005), the studies used the moderation-of-process design (Spencer et al., 2005) to examine the role of intuitive (deliberative) processing, rather than the measurement-of-mediation design proposed by Baron and Kenny (1986). Two studies used cognitive load to increase intuitive thinking and used causal thinking to increase deliberative thinking respectively. The research hypothesised that cognitive load and causal thinking both lead to the boundary conditions of the effect of power on moral judgments related to differentiating cognitive processing styles. Cognitive load specifically decreased the utilitarian moral judgments of the powerless and did not affect the powerful. In contrast, causal thinking only increased utilitarian moral judgments of power holders, while it did not modify the moral judgments of the powerless.

In Study 5, we used a number-memorising task developed by Körner and Volk (2014) as a cognitive load task. It was then found that the preferences for utilitarian moral judgments of powerless individuals decreased under cognitive load, while the powerful were not affected by load. This study provided preliminary

evidence to support that deliberative processing style is the drive of default utilitarian

moral judgments of the powerless. Under cognitive load, powerless people do not

have enough cognitive resources supporting deliberative thinking to make utilitarian

judgments. Less utilitarian moral judgments of powerless individuals under

cognitive load is consistent with previous studies about the link between deliberative

thinking and utilitarian moral judgments (e.g., Bartel, 2008; Greene et al., 2008;

Moore et al., 2008; Paxton et al., 2012). Meanwhile, the stable preferences for the

deontology of the powerful, regardless of whether they were under load or in the

control condition, suggested that the moral judgments of power holders are not

driven by deliberative processing.

In Study 6, we further examined whether increased deontological moral

judgments of power holders are driven by intuitive thinking. The study compared the

moral judgments of high-power participants and their control counterparts in the

conditions where systematic thinking was elicited versus a control condition. The

results showed that the preference for the deontological moral thinking of powerful

individuals did not occur in the condition where systematic thinking was elicited.

This finding suggested that the moral judgments of power holders are by default

driven by intuitive processing.


### 5.2.4 Power Increases Moral Flexibility via Goal Focus

The link between power and cognitive processing style is not entirely able to

explain how power affects moral judgments in social contexts. Although many

studies and theories supported that the powerful are automatic (e.g., Fiske, 1993; Golby et al. 2001; Goodwin et al., 2000; Guinote et al., 2006; Guinote et al., 2010; Keltner et al., 2003; Klocke, 2009; Schmid & Amodio, 2016 ; Weick & Guinote, 2008), others argue that they are goal focused (e.g., Galinsky et al., 2003; Guinote, 2007c; Nissan et al., 2015; Overbeck & Park, 2006; Schmid et al., 2015; Seibert et al., 2011). We chose the situated theory of power by Guinote (2007a, b, 2010) to reconcile the two approaches. Power increases flexibility and shifts behaviour in line with salient goals, the states of the person or opportunities in the environment (Guinote, 2007a, b), which in turn affects priorities and the cognition of power holders, thus increasing flexibility across contexts.

Studies 7-10 examined and supported the hypothesis that contextual focal goals shifted the moral reasoning of power holders in ways that are instrumental to the pursuit of these goals. That is, contexts that benefited from rule should trigger deontological moral reasoning among power holders, whereas contexts that benefited from outcomes would elicit utilitarian moral thinking. In contrast, powerless individuals did not show this tendency. Meanwhile, authority maintenance goals and goal commitment were assessed as mediators. Contextual goals more strongly impacted the moral judgments of powerful individuals compared to those of individuals who did not have power. This effect occurred due to an enhanced goal commitment of power holders when compared to powerless individuals. At the same time, the desire for authority maintenance was a chronic and overarching goal of power holders that operated independently of more specific power-related goals,

such as the mission of the organisation. The goal to maintain the authority of power holders led to preferences for making deontological judgments regardless of contextual goals. Thus, it led to deontological moral judgments when it was consistent with the specific active goal, while the moral reasoning was shifted towards utilitarianism when the focal goal benefited from outcomes.

Four studies examined the links between power and moral reasoning across different work contexts. Context was either aligned with outcome-based (in person-centred organisations) or rule-based (in regulation-centred organisations) priorities. Participants then faced moral dilemmas with deontological and utilitarian solutions. Across the four studies, when compared to control and powerless participants, power holders' moral judgments were consistently more attuned to the salient goals (values) at hand, which was expected. Therefore, according to our assumptions, power holders flexibly changed moral reasoning in ways that advanced the focal goal. They relied on deontology to make moral judgments under a regulation-centred goal focus and tended to make utilitarian moral choices under a person-centred goal focus. Also, the product value positively predicted utilitarian moral judgments of the powerful, but not judgments of the powerless. These shifts did not occur for control or powerless participants. Furthermore, the previously reported differences between powerful and powerless participants (Lammers & Stapel, 2009) only occurred in contexts that benefit from following norms and regulations. In contexts that prioritise services to people and good for all, power no longer affected moral reasoning.

The studies offer explanations for how power affects moral reasoning. Firstly, by including a control group in Study 7, it showed that possessing power, rather than lacking power, influences moral reasoning. Powerless individuals' moral judgments did not differ from those in the control condition. Study 8 examined the effect outside of laboratory conditions and assessed participants' perception of the product/rule value in their context. The results showed that product value could modify the moral judgments of the powerful, but not those of the powerless. Therefore, this study increases the ecological validity of the findings.

Furthermore, Study 9 shows that the desire to maintain authority contributes to the effects of power on moral reasoning. Power holders possess a tendency to have stable authority and to maintain the current power structure to stabilise their power (e.g., Fiske & Depret, 1996; Guinote & Willis, 2011; Lammers & Stapel, 2009). The motivation to maintain authority was initially proposed by the power-as-control theory developed by Fiske (1993), which argues that the powerful desire to maintain their elevated control, while the powerless tend to pursue control over their own outcomes. Here, we show that the desire for authority impacts moral reasoning in a context-sensitive manner. The desire for authority maintenance facilitates deontology unaffected by contextual active goals. When doing so is consistent for the contextual goals at hand, power holders generated deontological moral judgments. When the conflicting contextual goal that benefits outcomes is activated, the moral reasoning of power holders is shifted towards utilitarianism.

These findings are not consistent with Lammers and Stapel's (2009)

argument concerning the role of rule focus on moral judgments. The authors

proposed that rules, norms and principles are the main way power holders use to

keep their power stabilised and exercise control over the powerless (see also Gramsci,

1971; Sidanius et al. 2004). Here, in the context of varied focal goals, rule-based

principles did not mediate the effects of power on moral decisions. This occurred

because a fixed focus on rules, norms and regulations is not helpful in all contexts;

the ultimate goal of maintaining authority can be achieved through various, goal

sensitive means that may not necessarily be rule-based.

Finally, Study 10 investigated the proximal mechanisms responsible for the

ways focal goals differentially affect the moral judgments of powerful and powerless

individuals. Power roles can be embedded in different context with different aims,

such as different organisational priorities. We hypothesised that power holders

endorsed goal commitment more strongly than powerless individuals, so they would

be more flexibly attuned to their primary focal goals, which would lead to context

specific moral judgments that enhanced the use of goal specific cognitive strategies.

Consistent with the hypotheses that power enhanced focal goal commitment in Study

10, this mediated the association between power and focal goals on moral judgments.

When the goal was aligned with deontological principles, enhanced goal

commitment among power holders led to a preference for deontological moral

reasoning. However, when the goal was focused on serving people (i.e., was

outcome focused), power holders shifted towards utilitarianism. In other words, there

was a significant mediated moderation of power and focal goals by goal

commitment.

In summary, the current research shows that various factors determine whether, how and why power affects moral judgments. Consistent with past research, there are drifts towards deontology stemming from an intuitive/automatic processing style (Briñol et al., 2012; See et al., 2011; Weick & Guinote, 2008) and the desire for authority maintenance (Fiske, 1993; Sidanius & Pratto, 1999; Wills & Guinote, 2010). Power holders are more inclined to make deontological moral judgments under the guidance of these factors. At the same time, power holders are more goal orientated (e.g., Guinote, 2007b, c; Overbeck & Park, 2006; Schmid et al., 2015) and committed to pursue their active goals. Because different goals benefit from different moral reasoning styles, active goals can pull moral reasoning towards deontology or utilitarianism. Consequently, the moral judgments of power holders are more flexible than those of powerless individuals.

## 5.2.5 Experimental Design

The various methods to manipulate power have similar effects (Guinote, 2017). All the approaches to manipulate power chosen by this current study induced a sense of power in experiments and imitated the condition in reality. Using various methods to study the same issue is helpful to increase the reliability of the study. We also adopted different tasks of mind-set priming and role-play paradigms in this research.

In all studies, how power affects moral judgments was tested with one

dilemma. This design is consistent with Lammers and Stapel's (2009) research, and is also typical in moral judgment research (e.g., Millar et al., 2014; Valdesolo & DeSteno, 2006). However, there are also many studies using a series of moral dilemmas to study moral judgments (e.g., Bartels, 2008; Greene et al., 2008), which is better to improve the robustness of the findings. We were not able to adopt this multi-dilemma design owing to the fragile nature of the power manipulation. In the pilot study, we found that the manipulation of the sense of power did not last very long and the dependent variables should be measured very quickly. The dependent variables in other studies with power manipulation were also simple and short (e.g., Anderson & Galinsky, 2006; Galinsky et al., 2003; Guinote, 2007b, c). Thus, we chose the one scenario design to guarantee that moral judgments were indeed affected by the manipulation of power.

Using a single-dilemma design sacrificed the variation of scenarios. We were not able to study if power affects moral judgments the same way in different dilemmas. To avoid this limitation, various dilemmas were included in different studies.

**5.2.6 Effect Size**

Table 18 summarised the independent variables (IV), dependent variables (DV), sample sizes ($N$), $p$ values, effect sizes and simple effects of power in all ten studies in this research. We listed the effect sizes ($\eta^2_p$) of power on moral judgments with the entire sample size.

Also, simple effects (Cohen's *d* value) were listed. Study 1 only involved power as independent variable, and power was the single variable manipulated in Study 2 and 8, so we included all data of these three studies in the simple analysis. Another seven studies adopted moderation experimental designs in which the manipulations of moderators modified the default moral judgments preferences of powerful individuals. Therefore, we listed the simple effect sizes of power in the control conditions without the influence of other moderators to see the effect of power clearly. We compared participants in high- and low-power conditions in the dilemma without harm in Studies 3 and 4, and the control condition without cognitive load manipulation in Study 5. We also compared participants in high-power groups vs. control groups in the control condition without deliberative thinking manipulation in Study 6.

Studies 7, 9 and 10 manipulated regulation-centred and person-centred goals, and did not include any control conditions. However, the results of these studies showed that the effects of power on moral judgments under regulation-centred goal activation were similar to the default effects of power in other studies, so we included the simple effects under the regulation-centred goal activation of Studies 7, 9 and 10 in the table (i.e., comparing participants in high vs. low-power condition under regulation-centred goal activation).

*Table 18*

*The summary of Independent variables (IV), dependent variables (DV), sample sizes (N), effect sizes ( $\eta^2_p$) and simple effects (d) of all studies.*

| | IV | Power Manipulation | DV | N | p | $\eta^2_p$ | n | sig. | d |
|---|---|---|---|---|---|---|---|---|---|
| Study 1 | Power (high vs. low) | Recalling past events | Medical dilemma | 99 | .028 | 0.049 | 99 | .031 | 0.44 |
| Study 2 | Power (high vs. low) | Quasi-experiment design (job related questions) | Work vs. children dilemma 1 | 196 | .039 | 0.022 | 196 | .16 | 0.21 |
| Study 3 | Power (high, low vs. control) Harm ( harm vs. no harm) | Written role simulation task (manager vs. employee) | Footbridge dilemma (harm vs. no harm) | 206 | .37 | 0.008 | 70 | .033 | 0.52 |
| Study 4 | Power (high vs. low) Harm (harm vs. no harm) | Recalling past events | Trolley dilemma (harm vs. no harm) | 145 | .22 | 0.011 | 75 | .009 | 0.64 |
| Study 5 | Power (high vs. low) Cognitive load (load vs. no load) | Written role simulation task (manager vs. employee) | Medical dilemma | 139 | .046 | 0.03 | 69 | .005 | 0.70 |
| Study 6 | Power (high vs. control) Deliberative thinking instruction ( yes vs. no) | Written role simulation task (manager vs.control) | No harm footbridge dilemma | 137 | .38 | 0.006 | 68 | .048 | 0.48 |
| Study 7 | Power (high, low vs. control) Goal activation (regulation vs. person-centred) | Role simulation description (manager, employee vs. control) | Work vs. children dilemma 2 | 196 | .37 | 0.01 | 65 | .011 | 0.65 |

*Table 18*（Cont.）

*The summary of Independent variables (IV), dependent variables (DV), sample sizes (N), effect sizes ( $\eta^2_p$) and simple effects (d) of all studies.*

| | IV | Power Manipulation | DV | $N$ | sig. | $\eta^2_p$ | $n$ | $p$ | $d$ |
|---|---|---|---|---|---|---|---|---|---|
| Study 8 | Power (high vs. low) | Role simulation task with different decision making rights | No harm footbridge dilemma | 187 | .043 | 0.03 | 187 | .043 | 0.35 |
| Study 9 | Power (high vs. low) Goal activation (regulation vs. person-centred) | Role play task (at work) | Work vs. children dilemma 1 | 140 | .48 | 0.004 | 70 | .041 | 0.50 |
| Study 10 | Power (high vs. low) Goal activation (regulation vs. person-centred) | Role play task (school) | Lab rule dilemma | 142 | .69 | 0.001 | 71 | .025 | 0.54 |

*Note.* $\eta^2_p$ the effect sizes of power on moral judgments in ANOVA analysis.

*N* the sample sizes of every study.

*sig. p values of* the effect of power on moral judgments in ANOVA analysis

*n* the sample sizes of simple effect analyses.

*p p* values of the simple effects.

*d* the effect sizes of simple effects of power (Cohen's *d* value). Studies 1, 2 and 8 analysed data of the whole samples. Studies 3 and 4 compared high vs. low power condition in the dilemmas without harm. The simple effects of Study 5 concerned no load condition, and Study 6 concerned no deliberation instruction condition. Studies 7, 9 and 10 only concerned regulation-centred conditions.

We also calculated the average effect size across all studies. The high values of Studies 1 and 5 were deontological options, while the high values of other studies were utilitarian options. Next, we reversed the responses of Studies 1 and 5. Since the scale of moral judgment in Study 7 was a seven-point scale, and other studies used nine-point scales, we standardised all scores of moral judgments to [0, 1] using the equation: $y = (x - \text{min}) / (\text{max - min})$.

The ANOVA analysis concerning the effect of power on moral judgments showed that power significantly affected moral judgments, $F(1,1544) = 10.32$, $p < .001$, $\eta^2_p = .013$ (high power: $M = 0.42$, $SD = 0.32$; low power $M = 0.49$, $SD = 0.34$; control group: $M = 0.53$, $SD = 0.32$). Because Lammers and Stapel's (2009) study focused on the comparison between powerful and powerless individuals, we also did an analysis to only compare participants in high- and low-power conditions: a t-test showed that $t(1404) = -3.65$, $p < .001$, $d = 0.21$. High-power participants were more likely to make deontological moral judgments than low-power participants, and the average effect of power on moral judgments had a small effect.

As we mentioned above, moderators in most studies directed the moral judgments of power holders to the opposite direction. We also calculated the average effect of the control conditions without moderators in all studies. The ANOVA analysis concerning the effect of power on moral judgments showed that power significantly affected moral judgments: $F(1,986) = 21.45$, $p < .001$, $\eta^2_p = .042$ (high power: $M = 0.38$, $SD = 0.30$; low power $M = 0.51$, $SD = 0.34$; control group: $M = 0.56$, $SD = 0.30$). When only comparing high- and low-power conditions, a t-test

showed that $t(917) = -5.84$, $p < .001$, $d = 0.41$. High-power participants were more likely to make deontological moral judgments than low-power participants. When comparing participants in high- and low-power conditions under control conditions, the average effect of power on moral judgments approached a medium effect.

As Table 18 illustrated, the effects of power were small effects in the current research; however, these effects were stable and reliable. All experiments relied upon sample sizes that estimated the basis of power analysis. We reported $p$ values, effect sizes and confidence intervals in every study. Different statistic indexes showed the small effects of power on moral judgments.

Small effects are very common in social psychology research. Specifically, in the moral research area, intuitionist model proposed that a variety of factors form moral judgments. Social contexts are only one element among all influencing factors, and power is one factor of all social contextual factors. Therefore, the effect of power occurs, but it may not be very strong.

Meanwhile, besides Study 1 being an exact replication, nearly all studies involved more than one independent variable or controlled variable. Studies 3 and 4 examined the moderating effects of harm, while Studies 5-10 used moderator experiment designs to examine cognitive processing and goal focus as the underlying psychological processes; Studies 2 and 8 also involved several controlled variables. The moderation designs were also possible to reduce the main effect of power. This type of study typically included a moderator that had an effect on the proposed psychological process, and studied if this moderating variable affected the

relationship between power and moral judgments (Spencer et al., 2005). If the moderator affected the relationship between power and moral judgments, this inferred that the proposed psychological process represented by the moderator contributed to an explanation as to why power influences moral judgments. Therefore, moderators usually reduced the default deontological tendency of the powerful or reduced the default utilitarian preferences of the powerless.

The simple effects of the control condition in each study should show the effects of power on moral judgments more truly. As can be seen from Table 18, the simple effects of nearly all studies had values around medium-effect sizes. The exact replication of the effect of power on moral judgments (Study 1) had a value approaching a medium effect ($d = 0.44$). Simple effects concerning the replication part of the studies reached a medium size following the traditional Cohen's $d$ (comparing participants in high vs. low-power condition in the dilemma without harm in Study 3: $t(68) = -2.17$, $p = 0.033$, $d = 0.52$; Study 4: $t(68) = -2.67$, $p = 0.009$, $d = 0.64$; in control condition without cognitive load manipulation in Study 5: $t(67) = 2.90$, $p = .005$, $d = 0.70$; in control condition without deliberative thinking manipulation in Study 6: $t(67) = -2.01$, $p = 0.048$, $d = 0.48$; compare participants in high vs. low-power condition under regulation-centred goal activation in Study 7: Study 9: $t(68) = -2.09$, $p = 0.041$, $d = 0.50$; Study 10: $t(69) = -2.28$, $p = 0.025$, $d = 0.54$). Also, when only comparing data in high- and low-power groups in the control condition without moderators, the average effect of power on moral judgments also approached a medium-effect size.

Simple effects concerning the interactive effects of power and harm in Studies 3 and 4, power and load in Study 5, power and deliberation in Study 6, and power and outcome-centred goal activation in Studies 7-10 were significant or marginal. However, simple effects under harm (Studies 3 and 4), load (Study 5), deliberation (Study 6) and outcome-centred goal activation (Studies 7, 9, 10) are far from significant. It is not plausible that power affects moral judgments under these conditions; these conditions reduced the effects of power on moral judgments. However, when we discuss the robustness of the effect of power, we should take the simple effects in the conditions without moderators into consideration.

## 5.3 Implications of the Present Findings

This research, when taken in its entirety, increases our understanding about how power influences moral thinking style and fills a neglected area in the literature. Although previous research has shown that the powerful and powerless hold different preferences for moral thinking style (Lammers & Stapel, 2009), there is some contrasting evidence that shows that power may relate to a low moral level or utilitarian moral thinking (Raymond & Strack , 1995; Côté et al., 2013; DeCelles et al., 2012; Kipnis, 1972; Carney & Mason, 2010). The present research offers a parsimonious explanation of both sets of findings. Taking a variety of contexts into consideration, the studies demonstrate a clear and complete picture about how power affects moral thinking style in different conditions. Based on the situated focus theory of power, the present study highlights that the moral judgments of power

holders – similar to other cognitive activities – are guided by their goal focus. Higher

goal commitment explains the link between the active goal and final moral options.

Furthermore, cognitive processing style and the motivation to maintain authority

contribute to explaining the preference for deontology of power holders.

## 5.3.1 Power and Moral Thinking Style

Power is usually considered to be related to decreased moral levels (e.g.,

Raymond & Strack, 1995; DeCelles, K. A., DeRue, Margolis, & Ceranic, 2012;

Kipnis, 1972), but less research has discussed how power affects thinking styles in

the moral domain. Here, we replicated the association between power and moral

thinking style, and proposed boundary conditions and their possible underlying

mechanisms; we treat moral thinking style neither positively nor negatively. The

moral judgments of power holders are constructed based on a series of inner and

outer factors (e.g., the extreme extent of the ethical issue, cognitive resources, focal

goals, self-interests), and are one strategy that allow people to follow their active

goals at hand. Thus, moral thinking style cannot be understood simply as good or

bad, it is dependent on the aims of the powerful.

The findings suggest that there is a limited scope for the influence of power

on moral thinking style when the dilemma is extreme (harm is present); this shows

that the moral judgments of the powerful and powerless are not necessarily

contradictory. Power increases the reliance on deontological moral judgments via

intuitive thinking and the chronic goal to maintain authority. However, the outer

factors (e.g., cognitive load, time limit) eliciting moral intuition can also modify the judgment of the powerless, thus nullifying the differences.

The findings extend our understanding about how power affects moral reasoning in classical dilemmas with conflict between deontology and utilitarianism. The powerful are more inclined not to violate the ownership of sculptures and not to choose sacrificing the one sculpture that they promised to take care of when compared with people without power. This finding is consistent with previous findings about the association between high power and rule-based thinking (Lammers & Stapel, 2009). Lammers and Stapel put their focus on the choice between rules or regulations set by a specific person or organisation (e.g., a teacher, the hospital), while the rule in the current study is about not violating ownership. As the choice between violating ownership and the greater benefits is also a good method to study the conflict between deontology and utilitarianism (Millar et al., 2014), this study replicated the previous finding in the classical footbridge and trolley dilemma in the absence of harm.

**Parallel Mechanisms.** The relationship between power and moral judgments is a complex issue, and various contextual mechanisms can operate. The study offers several parallel explanations for how power affects moral judgments: cognitive processing style, goal focus, goal commitment and the desire for authority maintenance. Intuitive processing style, desire to maintain authority and rule-based organisational contexts trigger a deontological bias among the powerful. However, to the extent that active goals benefit from utilitarianism, such as in person-centred

contexts, so does the moral reasoning of powerful individuals shift; we will elaborate this below.

Intuitive/deliberative processing is mainly about how powerful individuals pay attention to and process information, and specify goals to focus their aims and desires based on social environments. Authority maintenance is an overarching aim of power holders, and the goal commitment acts as a cognitive/motivational mechanism that aids in the pursuit of specific goals, explaining how powerful individuals transfer their goal-focus tendency to moral choices. These explanations do not contradict each other and together they can account for why power influences moral judgments.

The motivation to maintain authority was initially proposed by the classical power-as-control theory developed by Fiske (1993), which argues that the powerful desire to maintain their elevated control and the powerless tend to regain control over their own outcomes. Also, many theories and much research has mentioned that the motivation to maintain authority and power structures is the chronic and generic goal of human and non-human primates in high hierarchal positions (Bugental, 2010; Knight & Mehta, 2017; Sapolsky, 2004; Willis et al., 2010). Consistent with past claims, here we show that the desire to maintain authority is a generic goal of power holders that is not affected by context-triggered rule-based/deontological thinking. It can co-exist together with other salient goals. It increases deontological judgments in rule-based contexts, and conflict with utilitarian moral judgments in outcome-centred contexts decreasing the level of utilitarian reasoning.

This finding is partially consistent with Lammers and Stapel's (2009) argument concerning the role of rule focus on power holders' moral judgments. The authors proposed that rules, norms and principles are the main way for power holders to keep their power stabilised and exercise control over the powerless (see also Gramsci, 1971; Sidanius et al., 2004). In the context of varied focal goals presented here, rule-based thinking principles did not mediate the effects of power on moral decisions. This implies that a fixed focus on rules, norms and regulations is not helpful in all contexts faced by power holders. Meanwhile, this rule-based choice does not equal the concept of deontology. Deontology usually directs to higher general rules about what is right (Gaus, 2001), but not a specific principle set by a specific context, organisation or group of persons. However, the rules that the powerful usually try to retain are the specific 'rules' related to their power, authority and interests – not the stable general rule – so their judgments could be flexible in order to serve the context. In contrast, the higher-level ultimate goal of maintaining authority mediated the effects. This goal can be achieved through various means and it is not necessarily rule-based.

**Ecological Validity.** Previous research has not established the ecological validity of the link between power and moral judgments. Thus, it is not clear whether the effect obtained by manipulating sense of power in laboratory conditions can be generalised to real life. The current research examined the effect both in the laboratory and in a quasi-experiment, using groups who naturally differ in their levels of power. This gives considerable support for the ecological validity of the

association between power and moral judgments, and indicates that the effect occurs in real life.

**5.3.2 Theories and Research of Power**

**Power and Automatic Cognition.** Examining the role of cognitive processing style as an underlying process provides insights about how power is linked with moral thinking and judgments. Power approach/inhibition theory posited that powerful individuals prefer to use automatic social cognition, while powerless individuals prefer to use controlled social cognition (Keltner et al., 2003). A great deal of past research focused on how power relates to the use of automatic cognition in social perception, such as impression formation, stereotypes and decision making (e.g., Guinote & Phillips, 2010; Guinote et al., 2010; Overbeck & Park, 2001, 2006; Weick & Guinote, 2008). This study shows that power also promotes automatic cognition (intuitive thinking) in the process of moral thinking and moral judgments. The present findings provide an important extension for the theory about how power affects the mind.

**Power and Goal.** The findings are consistent with the situated focus theory of power and studies about power and goal focus. Previous research found that power activates goal-consistent cognition and behaviours to obtain their desire and aims (Anderson et al., 2003; Cast, 2003; Chen et al., 2001; Galinsky et al., 2003; Guinote, 2007c). Power holders more narrowly focus their undivided attention in line with these primary goals, affordances or inner states. Consequently, they more

selectively deploy their attentional resources and use flexible cognitive strategies that advance the primary needs and desires at hand (Guinote, 2007a, b; Guinote & Vescio, 2010; Schmid et al., 2015); for example, work and routines are important in a working day. Guinote (2008) found that power holders planned more routine activities and less leisure on weekdays than on the weekend. The reverse was true for weekend days and these differences were less pronounced for powerless participants. Similarly, Overbeck and Park (2006) found that powerful perceivers (but not those who were powerless) displayed different patterns of social perception when facing product-centred and person-centred organisational goals; the former was more socially attentive in person-centred organisations when compared to product-centred organisations.

One of our theoretical arguments behind the current study was to focus on the roles of focal goals and the commitment to these goals, as well as to see how this applies and extends previous research on power on goal focus (Guinote, 2007a, b, 2008; Overbeck & Park, 2006). The present results mirror these findings in the domain of moral judgments. Power holders treat the choices of moral principles as a strategy to serve for their goals, and they also show that the effects occur because power holders value authority and are more committed to the specific power-related goals at hand. Power brings a clarity of focus and an eagerness of desire (wanting), as well as a drive to work towards desires and aims in a selective and focused manner (Guinote, 2017).

### 5.3.3 Theories of Moral Judgments

**Intuitionist Model.** Being temporarily in a high- or low-power position affected moral judgments. This association of power and moral thinking style is consistent with the intuitionist moral model (Haidt, 2001), which claims that moral thinking is not stable; it is affected by various contextual cues and people rely on intuition or elaborative reasoning to think about moral events depending on context.

The current findings show that contextual factors at different levels contribute to the construction of moral judgments, including social influencing factors (i.e., social power), cognitive factors (i.e., cognitive load and causal thinking) and goal/motivation related factors (i.e., focal goal and the motivation for authority maintenance).

Furthermore, the present findings are consistent with those concerned with how intuition (vs. deliberation) elicits deontological (vs. utilitarian) moral judgments (Cushman & Young, 2011; Feinberg et al., 2012; Greene et al., 2008; Greene et al., 2001; Koenigs et al., 2007; Paxton et al., 2012). Past studies mainly discussed how people with damaged emotion/intuition-related brain areas differ from normal people in moral judgments. The present study shows that, in normal groups of people, social influence factors can also provoke different cognitive processing styles, which further lead to distinguishing them from moral judgments.

**Goal Focus and Moral Judgments**. A novel contribution of the present work consists in showing that moral judgments are amenable to the influence of active goals. In Section 1.2.4, we mentioned that goal, motivation and values can

influence moral judgments. However, these factors are always correlated with moral issues, such as belief in the just word (Callan et al., 2013), protected values (Baron & Spranca, 1997; Ritov & Baron, 1999) and ethical leadership values (Brown & Treviño, 2006; Carroll, 1991; Treviño et al., 2003). Few studies directly investigated how goal focus affects moral judgments, especially regarding the choice in the conflict between deontology and utilitarianism. This research indicates that active goals also drive corresponding cognitive activities on ethical issues.

### 5.3.4 Applied Implications

The present findings provide insights for the decision makers in powerful positions in organisations and the political area. Power holders and powerless individuals indeed hold different moral thinking styles towards ethical issues that occur in organisations. While those in power focus on maintaining rules, those who lack power focus on the outcomes of moral decisions. That is, the powerful put their focus on existing rules and regulations. Differences in the perspectives of powerful and powerless individuals can create organisational or societal conflict, and knowledge of the epistemological viewpoints triggered by a hierarchy can be useful to manage those conflicts.

Power holders prefer to rely on automatic, effortless and intuitive ways to perceive and process information, as well as make decisions (Briñol et al., 2012; Briñol et al., 2007; Fiske, 1993; Guinote, 2017; See et al., 2011; Weick & Guinote, 2008). The present findings suggest that this intuitive tendency is also shown in the

moral decisions of power holders. These power holders may rely on their first impression, subject experience, heuristics and intuition to make ethical decisions that involve the interests of the public and the greatest number, which may be not a bad thing when matters are very urgent. Also, if their subjective experiences and heuristics are suitable for and consistent with the current conditions, this intuitive tendency will be beneficial for power holders to make decisions effectively and efficiently. However, the decisions may be harmful, when their heuristic and subjective experiences come from inappropriate information sources (Guinote & Weick, 2008). Although we cannot say that rational thinking must be better than intuitive thinking, deliberative reasoning can still give decision makers a chance to consider the benefits and outcomes of all sides (Suter & Hertwig, 2011). The current findings suggest that organisations and institutions can instigate related regulations to ensure that the persons in positions of authority have a deliberative process before important decisions.

Studies 7-9 showed that the goal-focus orientation of power holders can also guide their moral judgments. Although this orientation facilitates finishing the task and goal effectively, this may lead to the short sightedness of people in authoritative positions. People with power and authority may focus on the current context, goal and task at hand, and ignore the benefits of the most people who they cannot see and the outcome of the decisions in the long-term foreseeable future. This finding cautions people who are in high-power positions to balance their current tasks and long-term goals.

**5.4 Limitations**

**5.4.1 Boundary Conditions for Power Differences in Moral Judgments**

Chapter 3 discussed how bodily harm leads to the boundary condition for power differences in moral judgments. However, Studies 3 and 4 only discussed the association between power and moral reasoning in cases with/without harm to life. Specifically, it would be informative to investigate the role of harm continuously with different levels of intensity.

In addition, there are several factors that could possibly influence moral thinking style that were not investigated in the present research. In particular, moral decisions have downstream implications that could be examined; for example, the cost of the means used to enhance the greater good (Hauser et al., 2007; Thomson, 1976). Scholars proposed a concept called 'the principle of the double effect'. That is, people are more likely to accept harming an individual for the greater good as the foreseen side effect than accept that as the necessary means to the greater good (Mikhail, 2000; Kamm, 1998; Thomson, 1970). Hauser et al. (2007) studied this dimension and compared the moral judgments of two adapted versions of the trolley dilemma, in which harming a person by an agency was an intended means to saving more persons, or was a foreseen side effect. The results showed that it is more acceptable to harm the person when the harm is a side effect than as a means to save more persons. This effect can also be applied to the research about the different moral judgments of the powerful and the powerless. As highlighted earlier, power

holders experience less empathy towards others (Van Kleef et al., 2008). Hence, we would expect that this difference will not affect their moral thinking style, but that it may cause different moral judgments of the powerless.

**5.4.2 Further Study About the Role of Cognitive Processing Style**

We proposed that different moral judgments linked with power are due to different cognitive processing style (power holders' preference for automatic and intuitive thinking and powerless individuals' preference for controlled and deliberative thinking). Chapter 4 adopted a moderation-of-process design to examine whether intuitive (vs. deliberative) cognitive processing style drives the deontological (vs. utilitarian) moral judgments of the powerful (vs. the powerless). Studies 5 and 6 provided evidence supporting our assumptions by manipulating cognitive load and causal thinking. Some scholars mention that memory load tasks and moral judgments do not share the same brain area (see Greene et al., 2004; Petrides, Alivisatos, Meyer, & Evans, 1993). Therefore, future studies of other more specific tasks restricting cognitive resources consumed by moral reasoning can be used to examine the effect, such as limiting the judgment time.

Meanwhile, these two studies both adopted a moderation-of-process experimental design (Spencer et al., 2005), and we did not find evidence for the relationship between power and intuitive/deliberative processing style by the measurements of cognitive processing style in Studies 3 and 4. It is difficult for participants to report their processing style precisely (Haidt, 2001, 2007; Nisbett & Wilson, 1977; Uleman & Bargh, 1989). Socially desirable responding and faking

might also exist and affect this measurement. Further methodologies can be used in the future to examine the role of cognitive processing style, such as causal-chain design (Spencer et al., 2005) and a neuroimaging study. Neuroimaging, such as fMRI, provides a possible means to assessing the activation of automatic/controlled cognition-related brain areas. Many previous studies have shown that fMRI is an efficient technique to study the relationship between cognitive processing and moral reasoning (e.g., Greene et al., 2001; Koenigs et al., 2007).

### 5.4.3 Goal Focus

Studies 7-10 assessed the moral responses of participants under different active goals or values, but we did not examine the default choice of the powerful/powerless under this design directly. It is still unknown if the powerful naturally hold a tendency to maintain the rule without any goal-focus manipulation. Further studies can test if the choices of the powerful without any goal activation are similar to their choices under rule-centred goal focus.

In addition, the current study examined and unveiled various mechanisms about how and why power affects moral thinking style. However, it is still not known whether they interact with each other when they occur together, and if any factor will weigh more than others. For instance, if a power holder who holds an outcome-centred (person-centred) organisational goal faces a choice between rule and practical outcome under cognitive load, what will they choose? Or conversely, if a power holder sticking to rules is instructed to deliberate the outcomes of the

choices before decision, which factor will take advantage in the judgments? Further study can consider these complex conditions and illuminate their relations.

### 5.4.4 The Utilitarian Judgments of the Powerless

Previous research showed the association between reduced power and utilitarian moral thinking style (Lammers & Stapel, 2009), and proposed that the powerless sought to pursue control, broke the current rule and chose more practical moral thinking style. This research mainly focuses on how goal focus explains the association between increased power and moral judgments. We found that different goal activations could not modify the judgments of the powerless, but more research may be needed to examine whether the preferences for utilitarianism of the powerless and people without power is due to the motivation to restore the control. Future study can tackle this issue.

### 5.4.5 Manipulation of Power

As mentioned in Section 5.2.5, we adopted one dilemma design in all studies; this is due to the fragile nature of power manipulation. Recalling past events, role-simulation tasks and role-play tasks cannot induce individuals' sense of high or low power for a very long time. The dependent variables in studies with power manipulation were nearly all simple and short (e.g., Anderson & Galinsky, 2006; Galinsky et al., 2003; Guinote, 2007b, c). If too many dilemmas were included in a study, an individual might not judge the latter dilemmas with a sense of aroused

high/low power.

Including more dilemmas in one study would be better to improve the robustness of the findings, but the nature of power manipulation does not allow this design. One dilemma design sacrificed the variation of scenarios. When compared to multi-dilemma designs, the current design was not able to study whether power affected moral judgments in same way in different dilemmas. In order to avoid this limitation, different dilemmas were included in different studies.

Measuring personal sense of power can avoid the disadvantage of power manipulation. The study measuring personal sense of power requires a large sample size. However, constrained by a limited budget, and without the ability to pay for a large sample, the current study did not use this design. Further studies could directly measure sense of power and assess participants' responses of several dilemmas at one time in a single study.

## 5.5 Conclusion

The present research focused on how power influences the deontological and utilitarian moral judgements, and investigated mechanisms underlying this effect. Firstly, this research provides strong evidence for the links between power and deontological moral reasoning in experimental contexts and in organisations when harm to life is absent. This phenomenon was also found across different cultures. Thus, the findings contribute to establishing our knowledge for the first time, as well as the ecological validity and generalisability of the links between power and moral

reasoning. The studies also show limits to the effects of power on the moral domain.

The associations between power (powerlessness) and deontological (utilitarian)

moral thinking were only found in the condition where physical harm was not

presented. Harm prompted deontological responses among control and powerless

individuals, which nullified differences across the power conditions. Furthermore,

the present findings suggest that cognitive processing style and focal goals – such as

those linked to the context in which power is exercised – contribute to explaining the

association between power and moral judgements. Power holders tend to rely on

intuition to make deontological moral judgements, and powerless individuals tend to

make utilitarian moral judgements driven by deliberation. The culture and priorities

of organisations could be an important determinant of the moral thinking of power

holders, with less effects on the thinking of the powerless. Here, we showed that

utilitarian active goals override the processing style of power holders. This flexibility

in the moral reasoning of the powerful could provide an answer for a longstanding

quest for the understanding of the links between power and morality.

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# List of Appendices

## Appendix 1

## Recalling Past Events Task to Manipulate Power (Studies 1 and 4)

**High power condition:**

Please recall a particular **incident in which you had power over another individual or individuals**. By power, we mean a situation in which you controlled the ability of another person or persons to get something they wanted, or were in a position to evaluate those individuals. Please describe this situation in which you had power—what happened, how you felt, etc.

It is important that you imagine this situation as vividly as possible. This study is completely anonymous and confidential, and there is no right or wrong answers. You can write whatever incident comes to your mind that made you feel really powerful – no matter how others would feel or think about this incident. Please use the space below to describe the incident (not less than 300 words).

**Low power condition:**

Please recall a particular **incident in which someone else had power over you**. By power, we mean a situation in which someone had control over your ability to get something you wanted, or was in a position to evaluate you. Please describe this situation in which you did not have power—what happened, how you felt, etc.

It is important that you imagine this situation as vividly as possible. This study is completely anonymous and confidential, and there is no right or wrong answers. You can write whatever incident comes to your mind that made you feel really powerless – no matter how others would feel or think about this incident. Please use the space below to describe the incident (not less than 300 words).

**Appendix 2**
**Questions to Prime Sense of Power in Study 2**

Instruction: This is a psychology research from University College London. This research aims to explore how people percept their work environment, and how work environment affects decision making. We would like to ask you a few questions about yourself and your work place. The whole questionnaire will take about 10 minutes.

1.  For how many years have you been working in this company?

_____years

2.  What is your role in the company? _____

3.  The triangle below represents the hierarchy in an organisation. Please indicate your position in your organisation, by choosing a horizontal line across the triangle at the level that best represents your position.

(If you are part of a large organisation with occupancy distributed across sectors and places, please think about you're the immediate organisation of people who share a workplace.)

For example: If your position of the organisation is at the middle level, please choose the horizontal line as the picture below.
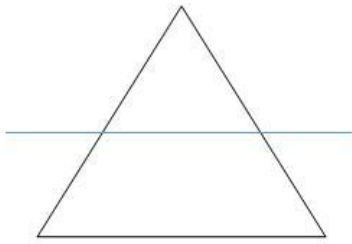
Now please choose a corresponding line from the lines below according to your position, and circle the number besides the line:
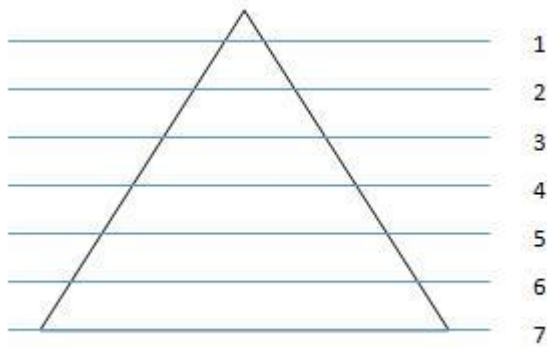
4. Do you have subordinates? Yes / No

**For powerful participants:**

5. How many people do you supervise? _____

6. Please describe your work responsibilities when you supervise your subordinates. For example, what types of tasks do you usually distribute to your subordinates?

**For powerless people:**

5. Please describe your managers' work responsibilities when they supervise you.

6. Please describe your work responsibilities and work contents under the

supervision of your leader. For example, what types of tasks does your leader usually

distribute to you?

**Instruction:** We are interested in organisational behaviour, and are asking

participants to imagine themselves in an organisational role as vividly as possible.

You will read information about a role of a person, and imagine yourself in that role.

You will then be asked to describe what a typical day in your life would be if you

would be in that particular role. Try to image the situations at work in details.

**Managing Director in a Marketing Organisation.**



The managing director in this marketing organisation has 20 employees working

under him/her. The organisation promotes various products to the public, and the

role of the director is to **distribute the work** that subordinates must complete, **set**

**priorities** for the team, **approve project proposals,** and **accept or decline new**

**clients**. The managing director knows the work well and makes all decisions within the company**.** He/she **manages a large amount of money**, sets priorities and determines the salary and the workload of the employees. Below is the office of the manager.

Please imagine yourself being the Director of this firm, and describe in details what a typical day in your life would be, what you would do, how you would feel, and what you would think. You can describe the whole day from morning to the evening. There is no right or wrong answers; we are simply interested in people's roles in everyday life. Please use the space below to describe your day, and imagine yourself in this role at work as vividly as possible (at least 300 words).

**Employee in a Marketing Organisation.**

The employee in this marketing organisation works in a team of 20 people. The organisation promotes various products to the public, and the role of the employee is to **complete any task** that the manager assigns to him/her, and to **follow instructions** regarding priorities in this marketing organisation. The employee must also **keep records and prepare paperwork** for projects and new clients that were approved by the manager. The employee knows the work well and strictly follows the procedures and priorities set by the manager. His or her salary and workload are determined by the manager. Below is the work desk of the employee.

Please imagine yourself being an employee in this firm, and describe in details what a typical day in your life would be, what you would do, how you would feel, and what you would think. You can describe the whole day from morning to the evening. There is no right or wrong answers; we are simply interested in people's roles in everyday life. Please use the space below to describe your day, and imagine yourself in this role as vividly as possible (at least 300 words).

**Cognitive Processing Style during Moral Judgment:**

There are some statements related to your thoughts during making judgments in the story. To what extent you agree with the statements below? Please rate on the 9-point scales from 1 (totally disagree) to 9 (totally agree).

1) I used my gut feeling to make the judgment.

2) I considered deliberatively about the contents and outcomes of different choices when I did the judgment.*

3) I did a lot of thinking before I made the judgment.*

4) I trusted my initial feeling and used it to make my choice.

**Rule-based Thinking:**

In general, to what extent you agree with the statements below? Please rate on the 9-point scales from 1 (totally disagree) to 9 (totally agree).

1) Generally, I find it important that everyone is treated according to the rules.

2) I think it is important that the rules are followed strictly.

3) I think that one should always be able to make exceptions to the rules.*

4) I think rules should be secondary to people.*

**Long-term Processing Style:**

In general, to what extent you agree with the statements below? Please rate on the 9-point scales from 1 (totally disagree) to 9 (totally agree).

1) I don't like to have to do a lot of thinking.

2) I prefer to do something that challenges my thinking abilities than something that requires little thought.*

3) I try to avoid situations that require thinking in depth about something.

4) I prefer complex to simple problems.*

5) Thinking hard and for a long time about something gives me little satisfaction.

* means reversed score items.

**Appendix 5**
**The Questionnaire about Participants' Subject Background in Study 8**

**Student life survey**

1.  What is your major?   _____

2.  Could you write down three main courses that you thought are important in your

    major?

3. For how many years have you been studying business (law) related subject?

_____years

4. Why did you decide to study business (law) related subject? Please describe your

answer in two to three sentences.

5. What are, in your opinion, the three major advantages of being a business (law)

student?

6. Which three characteristics of your personality do you think are typical as a

business (law) student?

7. What are the three most important things you learned in your study as a business

(law) student?

**Appendix 6**
**The University Course Credit Scheme Introduction to Manipulate Power in Study 8**

Now our university has a plan to introduce a university-wide course credit scheme. The University attaches importance to research and the development of research ability of undergraduates. Besides, the university hopes that students could study from a cross-disciplinary perspective . Thus, this scheme requires future undergraduate students across all disciplines to participate in research projects in one another's discipline, including participating in studies, and conducting mini research project as researchers. (This is a plan for the future undergraduate students, but will not affect you.)

**High power condition:**

There is a university panel for this scheme. They hope to know how students think about this scheme, and will consider this very carefully. Your opinions collected by this survey will receive a weight of 50% towards the final decision of the University.

**Low power condition:**

There is a university panel for this scheme. Your opinions collected by this survey are only for the panel to know. However, this may not affect the future introduction of the scheme.

1.  Do you agree this scheme in general? And why?

2. Please give us your thoughts and further suggestions about this scheme.

**Appendix 7**
**The Measurements of Product Value and Rule Value in Study 8**

**Instruction:** Please consider your future career in your current profession, and then answer the following questions.

1) To what extent do you think product of the organisation is important?

Not at all    1   2   3   4   5   6   7   Very much

2) To what extent do you think norm is important?

Not at all    1   2   3   4   5   6   7   Very much

3) To what extent do you think organisational profit is important?

Not at all    1   2   3   4   5   6   7   Very much

4) To what extent do you think regulation is important?

Not at all    1   2   3   4   5   6   7   Very much

5) To what extent do you think transparency of procedures is important?

Not at all    1   2   3   4   5   6   7   Very much

6) To what extent do you think organisational competitivity in the market is important?

Not at all    1   2   3   4   5   6   7   Very much

**Desire for Authority Maintenance:**

To what extent you agree with the statements below? Please circle the responding number.

1. The real keys to good company are discipline.
    **Strongly disagree**   1   2   3   4   5   6   7   8   9   **Strongly agree**

2. The company will be great if we honor the traditional ways.
    **Strongly disagree**   1   2   3   4   5   6   7   8   9   **Strongly agree**

3. It is wonderful that employees can protest anything they don't like, and act however they wish.
    **Strongly disagree**   1   2   3   4   5   6   7   8   9   **Strongly agree**

4. Employees must be taught to challenge their managers' ways, confront the authorities, and criticize the problems in the traditions of the company.
    **Strongly disagree**   1   2   3   4   5   6   7   8   9   **Strongly agree**

5. It is always better to trust the judgment of the CEO in the company than to listen to the noisy rabble-rousers who are trying to create doubt in people's minds.
    **Strongly disagree**   1   2   3   4   5   6   7   8   9   **Strongly agree**

6. What our company really needs, instead of more "civil rights," is a good stiff dose of regulation and order.
    **Strongly disagree**   1   2   3   4   5   6   7   8   9   **Strongly agree**

**Rule-based Thinking:**

1. To what extent do you consider transparency of procedures/ good service and ethical conduct is/are important?

             Not at all   1   2   3   4   5   6   7   8   9   Very much

2. How much would you like to invest time and effort to maintain the principles of the organisation?

             Not at all   1   2   3   4   5   6   7   8   9   Very much

3. To what extent do you think that maintaining the rules of your company is an

effective way to pursue the organisational goals?

Not at all   1   2   3   4   5   6   7   8   9   Very much

4. To what extent do you think that maintaining the norms of the company will be good for the current reputation of the organisation?

Not at all   1   2   3   4   5   6   7   8   9   Very much

# Appendix 9

## Target Items in Study 9

**Instruction:** Now you will read 20 statements, which are all major events at the company right now, including problems, accomplishments, and statements of current conditions.

**For high power group:**
After reading them, you need to choose some of them for **writing a report to the Board of Directors,** and also rank the most important 10 items.

**For low power group:**
After reading them, you need to choose some of them for **writing a report for the employee newsletter** and also rank the most important 10 items.

1. Some employees reported that some terms in the regulation handbook is out of date, and caused some misunderstandings during work. (R)

2. The products produced by the company are always higher than product quality standard issued by the country, and are awarded by the government. (R)

3. Employees of the company have expressed concern that applying for vacations is too difficult. (P)

4. A group of employees hopes to start a mentorship training program, to make new employees' experiences more positive. (P)

5. An independent auditor has found that there are some unruly purchasing and accounting practices, which caused waste of money. (R)

6. An independent review board has found that increasing demands from the company on the time and energy of employees are making it difficult to achieve a good work-life balance. (P)

7. The research and development department found a new set of manufacturing practice which can increase production by 30%. (R)

8. Some workers are often against the required process of the production, which caused machines out of work several times. (R)

9. The company decided to treat employees a special meal when they are on birthday. (P)

10. A group of employees has formed a sailing team, under the company name, that has won several local championships. (P)

11. Workers are being injured on the production line at a higher rate than average. (P)

12. Several managers have been criticized by employees for creating unpleasant work environments in their departments. (P)

13. The company has established new productivity standards, but most production lines are operating at only 85% of the new standards. (R)

14. The building's infrastructure is aging, which is out of the producing safety standards, so it requires updating urgently. (R)

15. The company conducted a layoff in the past year, and the employees laid off because of breaking the regulation. (R)

16. Employees have expressed a great deal of concern about the negative effects of the layoff on teambuilding and trust. (P)

17. The company highlights the intellectual property rights, and is spending a great deal of money on legal fees to double several new patents and protect its intellectual property rights on its existing patents. (R)

18. New government rules required change to the condition of chemical production. (R)

19. One of your researchers has just won a major international scientific prize. (P)

20. The company has inspired such loyalty from workers that many have been there 15 years or more. (P)

* P means person-centred items, and R means regulation-centred items.

1. Please choose the items which you hope to write into the report, and write their numbers below. You are free to choose items by yourself, but we recommend that you choose items that you found **most important**.


2. Please rank the most important 10 items from 1 (the most important item) to 10 (the least important item) (Please write corresponding important level number next to each item).

## Appendix 10
## The Measurement of Goal Commitment in Study 10

**Introduction:** We would like to ask you a few questions about your opinion **as the principal** about the goal of the school described in last page. To what extent you agree with the statements below? Please circle the responding number.

1.  It's hard to take this goal seriously.

    Strongly Disagree    1   2   3   4   5   6   7   8   9   Strongly Agree

2.  It's unrealistic for me to expect to reach this goal.

    Strongly Disagree    1   2   3   4   5   6   7   8   9   Strongly Agree

3.  It is quite likely that this goal may need to be revised, depending on how things go.

    Strongly Disagree    1   2   3   4   5   6   7   8   9   Strongly Agree

4.  Quite frankly, I don't care if I achieve this goal or not.

    Strongly Disagree    1   2   3   4   5   6   7   8   9   Strongly Agree

5.  I am strongly committed to pursuing this goal.

    Strongly Disagree    1   2   3   4   5   6   7   8   9   Strongly Agree

6.  It wouldn't take much to make me abandon this goal.

    Strongly Disagree    1   2   3   4   5   6   7   8   9   Strongly Agree

7.  I think this goal is a good goal to shoot for.

    Strongly Disagree    1   2   3   4   5   6   7   8   9   Strongly Agree

8.  I am willing to put forth a great deal of effort beyond what I would normally do to achieve this goal.

    Strongly Disagree    1   2   3   4   5   6   7   8   9   Strongly Agree

9.  There is not much to be gained by trying to achieve this goal.

    Strongly Disagree    1   2   3   4   5   6   7   8   9   Strongly Agree