LITERATURE REVIEW

# Construal Level Theory and Moral Judgments: How Thinking Abstractly Modifies Morality

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Research based on construal level theory has shown that whether objects and events are construed as abstract or concrete is a major factor in influencing people's moral judgments. The aim of this literature review is to describe and evaluate empirical research that has investigated the relationship between construal level and moral judgments. Although most reviewed studies show that abstract thinking leads to stronger moral judgments, inconsistencies exist and gaps in the literature remain. This is due to methodological limitations and differences in theoretical standpoints, which will subsequently be discussed. Suggestions for future research are offered.

Moral judgment is the evaluation of actions in the light of existing norms and values. As such, moral judgment requires the mental construal of these norms and values (Prehn et al., 2008). Different theories of moral judgment highlight different dimensions of these mental representations on which judgment is based. Through the years, the focus of research has shifted from deliberate and rational processes of reasoning (e.g., Kohlberg & Hersh, 1977) to emotional and intuitive reasoning (e.g., Blair, 1995; Haidt, 2001; Hauser, 2006; Mikhail, 2007). In the text that follows I will briefly describe two theories of morality which have been used in some of the reviewed studies in order to investigate the relationship between abstract thinking and moral judgment.

The Moral Foundations Theory elaborates the concept of different dimensions of moral judgments. The Moral Foundations Theory posits that moral judgments are based on five different foundations: harm, fairness, in-group loyalty, authority, and purity. Harm and fairness are referred to as the individualizing foundations, because they are concerned with protecting the rights and freedoms of individual people. On the other hand, ingroup-loyalty, authority, and purity are referred to as binding foundations since they are to do with protecting the group as a whole (Haidt & Graham, 2007).

Furthermore, studies have shown that people tend to associate an actor's degree of moral responsibility with a level of intentionality (Reeder, 2009). Plaks, McNichols, and Fortune (2009) have built on this finding by including an intentionality component in the concept of moral responsibility in their theory of distal and proximal intent.

Plaks and colleagues define the distal intent as carrying out an act as a means to an end (i.e., focusing on a broader goal beyond the act itself) whereas proximal intent is defined as being aware of and having control over the performance of the act (i.e., doing it 'on purpose').

In any event, seeing moral judgment as reasoning that is based on mentally construed norms and values raises the question of how moral judgments are shaped by cognitive processes. A theory that provides answers is Construal Level Theory (CLT; Liberman & Trope, 2008; Trope & Liberman, 2010). CLT distinguishes between high-level mental construals and low-level mental construals. High-level construals are abstract, superordinate, and decontextualized representations, while low-level construals are concrete, subordinate, and contextualized representations (Eyal & Liberman, 2012). High-level construals tend to vary less over time than low-level construals. For example, the action of 'going on Facebook' can be construed on a low level as 'perceiving the messages received' or 'skimming through the news feed'. A high-level construal of the same action can be representing it as 'keeping in touch with friends' or 'procrastinating'.

A major premise of CLT is that perceptions of objects and events vary depending on their psychological distance to the perceiver (Liberman, Sagristano, & Trope, 2002; Trope & Liberman, 2010). Psychologically distant stimuli are construed as high-level construals, whereas psychologically close stimuli are construed as low-level construals. This relationship has been shown to be bidirectional, meaning that level of construal affects perceptions of psychological distance in the same way as perceptions of psychological distance affects the level of construal (Bar-Anan, Liberman, & Trope, 2006; Liberman, Trope, McCrea, & Sherman, 2007). Psychological distance can be measured on different dimensions for which the

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reference point is the self, in the here and now. The future or past self (*temporal dimension*), others (*social dimension*), and some other place than here (*spatial dimension*) are perceived as psychologically distant. The final dimension, *hypotheticality*, refers to the likelihood of events in which highly likely events are psychologically close and unlikely events are psychologically distant (Trope & Liberman, 2010).

CLT can be linked to moral judgments in two ways. The first way asserts that moral principles and values constitute high-level constructs (Eyal, Liberman, & Trope, 2008). This is based on the notion that values are often represented as abstract and superordinate constructs that are central to one's identity (e.g., Kristiansen & Hotte, 1996; Verplanken & Holland, 2002). For example, valuing social equality implies various high-level construed actions such as striving for fairness, helping those in need, and caring about global issues. Moreover, this assumption is in line with research indicating that certain moral principles (e.g., the incest taboo, laws against stealing) guide moral behavior irrespective of changing circumstances, suggesting that judgments often are based on simple, intuitive moral rules (Haidt, 2001). Hence, CLT proposes that the more abstractly (i.e., psychologically distant) an object or event is perceived, the stronger the moral judgment will be. People are thus expected to judge immoral acts as more appalling and moral acts as more righteous when they are mentally represented as high-level construals, compared to when they are represented as low-level construals. Correspondingly, moral principles and judgments are proposed to be construed in an abstract and psychologically distant manner, rather than in a concrete and psychologically close manner (Eyal et al., 2008).

A second way of linking CLT to moral judgments is by explicating the rather simplified model proposed by Eyal et al. (2008). By investigating potential factors that contribute to and underlie moral decision making, research on the association between construal level and moral judgment has demonstrated diverse findings. Namely, studies with various theoretical standpoints have illuminated different kinds of associations between construal level and moral judgment that extend the model proposed by Eyal and colleagues. This will be the focus of the present literature review.

Understanding the various ways in which the construal levels relate to moral judgments allows us to implement methods that intend to enable people and organizations to act in a more humane and collectively beneficial way. CLT has introduced a promising approach to this and its connection to moral judgment should therefore be thoroughly considered and further investigated. Hence, the aim of this literature review is to create a clearer understanding of how construal level modifies moral judgment. Specifically, I will describe and evaluate the relevant research conducted on the effects of construal level on moral judgments, scrutinizing the proposition that high-level construals lead to stronger moral judgments. Considering the multifaceted nature of CLT and morality, this literature review may also be of interest to those who are curious about how research

has approached the measurement of mental construals and moral judgments. The resulting overview of studies attempts to highlight relations, inconsistencies, and gaps in the present literature in order to encourage and guide future research.

As this literature review demonstrates, the direct relationship between abstract thinking and moral judgment is challenged by (a) research illuminating that the operationalization of construal level is limited in its reliability and validity, and (b) research challenging the assumption that abstract thinking and moral judgment are uniform processes across individuals and settings. In addition, I will highlight that there are numerous ways to manipulate or measure abstract thinking; hence, there is no 'clear' or 'best' way to examine the relationship between abstract thinking and moral judgments.

## Design and Structure
First, I will briefly describe all the relevant studies on CLT and moral judgment, followed by an evaluation of the relations between the results of the studies. Lastly, I will suggest directions for future research.

For the sake of comprehension, the reviewed studies are grouped by main results and follow chronologically by publication date under each heading. Firstly, I will describe studies that have shown a direct association between abstract thinking and stronger moral judgments. These studies are then contrasted with studies that have shown contradicting results. Next, I will review subsequent replication studies and potential explanations to the contradictory findings. In the end of the review, I will describe studies that have shown significant results of variables moderating the effect of construal level on moral judgment.

## Methods
I searched for the relevant articles through the electronic search engines of Lund University's general database LUBsearch and of the PsycINFO online database. I used the search terms 'Construal level theory', 'morality', and 'moral judgment'. The reference lists of the literature found was further used to find studies that were of relevance for this review.

## Results
In total, 24 articles about the relationship between construal level and moral judgment were used for this review. Out of these, 13 studies showed empirical evidence that representing objects or events as high-level construals or as psychologically distant is directly associated with stronger moral judgments and increased moral behavior (Agerström & Björklund, 2009a, 2009b, 2013; Agerström, Björklund, & Carlsson, 2012, 2013; Choi, Park, & Oh, 2012; Eyal et al., 2008; Napier & Luguri, 2013; Nordhall & Agerström, 2013; Rixom & Mishra, 2014; Tumasjan, Strobel, & Welpe, 2011; van Houwelingen, van Dijke, & de Cremer, 2015; Yi, Charlton, Porter, Carter, & Bickel, 2011). Two studies showed opposing results such that low-level construals and psychological proximity elicited stronger moral judgment and increased moral behavior

(Gong & Medin, 2012; Lammers, 2012). As an attempt to further investigate these contradictory findings, two studies (Eyal, Liberman, & Trope, 2014; Žeželj & Jokić, 2014a) replicated and discussed the main studies that showed the contradicting results and an additional two articles presented potential theoretical explanations for the inconsistent results (Gong & Medin, 2014; Žeželj & Jokić, 2014b).

In addition to the aforementioned studies, five studies also found effects of variables moderating the effect of abstract thinking on moral judgments, namely gender (Agerström, Björklund, & Allwood, 2010), social motivation (Giacomantonio, De Dreu, Shalvi, Sligte, & Leder, 2010; Pronin, Olivola, & Kennedy, 2008), concerns about fairness and political ideology (Luguri, Napier, & Dovidio, 2012), and intentionality (Plaks & Robinson, 2015).

### Abstract Thinking Leads to Stronger Moral Judgments

Based on CLT's assumptions, Eyal et al. (2008) hypothesized that because of their abstract nature, moral principles are high-level constructs on which people are more likely to rely when judging psychologically distant compared to psychologically near events. They found support for their hypothesis in four different experiments. Results of the first experiment indicated that temporally distant moral transgressions were identified more often as high-level construals than temporally near moral transgressions. The second experiment built on this finding by extending it to *judgments* of moral transgressions, and results indicated that temporally distant moral transgressions were evaluated more harshly than temporally near moral transgressions. Temporal distance was manipulated by framing the moral transgression to take place either next year (*temporally distant condition*) or tomorrow (*temporally near condition*). The third experiment showed that this connection also applied for socially distant versus socially near moral transgressions. In this case, social distance was manipulated by asking participants to use either another person's thoughts and feelings as a reference point (*socially distant condition*) or to use their own feelings and thoughts as a reference point (*socially near condition*) for their judgment. The fourth experiment expanded on the previous experiments by examining the effect of temporal distance on morally virtuous actions (e.g., adopting a child). In line with their expectations, Eyal et al. found that morally virtuous acts were judged more positively in a distant future than in a near future. Taken together, Eyal et al.'s results thus indicate that moral principles are high-level constructs on which people rely more when things are construed in a psychologically distant (vs. near) fashion.

Agerström and Björklund (2009b) also found empirical evidence supporting the notion that more weight is placed on moral concerns for temporally distant than for temporally near events. In addition, three novel findings with regard to CLT were observed. Firstly, Agerström and Björklund's results indicated that temporally distant behavior is attributed to more abstract and dispositional causes, rather than concrete and situational causes. The authors argue that this attribution bias may be underlying the effect of temporal distance on moral judgments.

Secondly, Agerström and Björklund's results indicated that the effect of temporal distance on moral judgment is not only evident when judging others' morally questionable behaviors, but also when judging the same behaviors when performed by oneself. The authors linked this to Kivetz and Tyler's (2007) distinction between the idealistic self, which is motivated by values and principles, and the pragmatic self, which is motivated by practical concerns. Specifically, Agerström and Björklund propose that activation of the idealistic self is associated with an increase in temporal distance, while activation of the pragmatic self is associated with a decrease in temporal distance. Thirdly, Agerström and Björklund's results also indicated that emotionally laden moral evaluations (i.e., expressed anger) were stronger for temporally distant moral behavior.

Extending on these findings, Agerström and Björklund (2009a) investigated whether temporal distance would increase moral concern. Specifically, they investigated whether the effect of temporal distance on moral concern is moderated by individual differences in moral versus hedonistic values and the salience of these respective values. This was based on CLT's notion that moral values are high-level constructs (Eyal et al., 2008), and on Kivetz and Tyler's (2007) premise about the different effects of activation of idealistic versus pragmatic selves. Agerström and Björklund incorporated an affective aspect of morality, using guilt as a measure of moral concern when the moral judgment referred to one's own morally questionable behavior. In addition to finding support for their initial prediction, they also found that as temporal distance increased, participants would (a) be more likely to behave altruistically than selfishly, (b) would feel more guilt when behaving selfishly, and (c) consider selfishness to be more immoral.

A different approach was taken by Yi et al. (2011) who investigated whether adding two dimensions of psychological distance (i.e., temporal *and* social) would result in more moral behavior among participants, compared to when they were induced with only one dimension of psychological distance (i.e., temporal *or* social). Based on CLT and evidence indicating that temporal distance increases self-control (e.g., Green, Myerson, & Macaux, 2005), Yi and colleagues hypothesized that social discounting (i.e., discounting outcomes for others for one's own benefit) would decrease as the temporal distance to the reward increased. Their results supported their hypotheses.

In a subsequent study by Tumasjan et al. (2011), results indicated that evaluations of moral transgressions were influenced by social distance, as an unfamiliar leader (*socially distant condition*) was evaluated as less ethical than a familiar leader (*socially near condition*) when committing moral transgressions. In line with CLT, Tumasjan et al. interpreted these results as evidence for the notion that people take a leader's moral reasoning (i.e., motive for engaging in a particular behavior) less into consideration when they are socially distant versus socially close.

In another study building on CLT, Choi et al. (2012) hypothesized that greater temporal distance would lead to greater intentions to donate blood. The results supported their hypotheses, while also indicating that there

were no significant differences between Americans and Koreans in effects of temporal distance on intentions to donate blood. However, compared to Americans, Koreans seemed to have a less clear conception of whether one year from now was near or distant future, which Choi et al. encourage future research to investigate.

A study focusing on the emotional underpinnings of moral judgment in relation to CLT was conducted by Agerström et al. (2012). The results of this study showed that when people predict their reactions to temporally distant events, they experience moral emotions (e.g., guilt, shame) more intensely than when they predict their reactions to temporally close events. The results also indicated that experiences were construed as more temporally distant when taking a socially distant perspective. This is in line with CLT's assumption that temporal and social distance are interconnected (e.g., Pronin & Ross, 2006; Pronin et al., 2008; Trope & Liberman, 2003).

In a subsequent study, Agerström et al. (2013) build on research showing that high-level construals are more prevalent when taking a third-person perspective than a first-person perspective (e.g., Libby, Shaeffer, & Eibach, 2009). They found support for their hypothesis that moral principles weigh more heavily when taking a third-person perspective compared to a first-person perspective. This relationship was partly mediated by the level of mental construal of the evaluated morally questionable actions. Agerström et al.'s findings lend support for CLT's assumption that psychological distance and construal level are interrelated and bidirectional (e.g., Bar-Anan et al., 2006; Liberman et al., 2007).

In yet another study, Agerström and Björklund (2013) investigated the relationship between construal level and moral judgments by testing how individual differences in tendencies to construe reality in terms of psychological distance affect moral concern. They based their predictions on studies showing that people differ in the temporal frame that dominates their mental worlds (Strathman, Gleicher, Boninger, & Edwards, 1994) and that future-oriented people think more abstractly and are more motivated by superordinate goals than present-oriented people (Zimbardo & Boyd, 1999). In addition to showing a relationship between individual differences in abstract thinking (i.e., tendency to identify actions as high-level constructs) and moral judgments, Agerström and Björklund found that future-oriented people made stronger moral judgments than present-oriented people. Moreover, the results indicated that this relationship was mediated by level of construal. This is a novel contribution to CLT and theories of moral judgment, while also strengthening the explanatory power of CLT.

In line with Agerström and Björklund's (2013) findings, Nordhall and Agerström (2013) found additional support for the notion that future-oriented individuals are more appalled by moral transgressions and committed to moral rules than present-oriented people. This study used different measures of temporal perspective and of moral judgments from those used by Agerström and Björklund, while still yielding similar results. Hence, the results contribute to the reliability and validity of the overall conclusion that

future-oriented people hold stronger moral judgments than present-oriented people.

A different approach to investigating the relationship between construal level and moral judgment was taken by Napier and Luguri (2013), who based their study on moral foundations theory (Haidt & Graham, 2007). Here, the individualizing foundations are assumed to be more enduring components of morality, whereas the binding foundations' impact on morality is assumed to depend more on situational and contextual factors. Napier and Luguri found that individualizing foundations were valued more and binding foundations were valued less for participants who were induced to think more abstractly. This goes in line with CLT as it shows that more enduring components of morality are indeed valued more for those who think in a more abstract way.

Rixom and Mishra (2014) extended the previous research on CLT and moral judgment by finding that abstract-minded people violate ethical rules (e.g., being dishonest) for the greater social good (e.g., secure larger donations to charities) to a greater extent than concrete-minded people. Linking their findings to Kivetz and Tyler's (2007) theory that high-level construals activate the idealistic self, Rixom and Mishra argue that the moral principles that adhere most to the idealistic self are most likely to be followed when one is faced with more than one moral principle at high-level construal.

A study by van Houwelingen, van Dijke, and de Cremer (2015) indicated that leaders with a high-level construal orientation have a more positive view on following moral principles and that those with a low-level construal orientation are more likely to see moral principles as annoying obstacles. In line with this, they also found that leaders with a high-level construal orientation are more likely to apply moral rules in the work place through discipline in response to moral transgressions than leaders with a low-level construal orientation. What is more, they also found that this relationship between construal level and moral judgment held when construal level was manipulated by means of two different methods.

The results of the 13 studies described make up the gist of the main findings with regard to CLT and moral judgment. What they all have in common is that they show a relationship between abstract thinking and stronger moral judgments. However, these findings have been challenged by other studies showing contradicting findings. Additionally, other studies have found support for various variables moderating the relationship between construal level and moral judgment. In the next section, I will describe studies showing inconsistent results.

### Studies Challenging CLT's Main Findings

A challenge to the notion that high-level construals and psychological distance lead to stronger moral judgments (e.g., Eyal et al., 2008) is a study by Lammers (2012). On one hand, Lammers' study shows that temporal distance and abstract thinking does indeed increase moral condemning of others' immoral behavior, but on the other hand, it also decreases moral condemnation of one's own behavior. Thus, this study indicates that high-level

construals lead to increased moral hypocrisy (i.e., being more morally condemning of others' behaviors than one's own), which contradicts previous findings showing that abstract thinking leads to stronger moral judgments of one's own behavior (e.g., Agerström & Björklund, 2009b). Lammers' explanation for this finding is that moral hypocrisy is a form of cognitive flexibility in moral reasoning. This cognitive flexibility increases with higher construal level, because one becomes more lenient towards one's own actions when they are not constrained by situational, instrumental, and concrete factors.

Another study finding contradicting results was by Gong and Medin (2012) who sought to conceptually replicate Eyal et al.'s (2008) study. Instead of manipulating construal levels indirectly through induction of psychological distance, Gong and Medin directly manipulated construal levels. The authors found that low-level construals lead to stronger moral judgments than high-level construals, which led them to conduct another experiment in which construal level was indirectly manipulated through temporal distance. For the purpose of clarification of the forthcoming discussion on the differences between the studies with contradictory findings, I will briefly describe the methods used by Gong and Medin. In five experiments, Gong and Medin used different manipulations of construal level and different moral judgment scenarios, that all have been used before within the CLT framework. Specifically, in experiments 1–3 a priming procedure developed by Freitas, Gollwitzer, and Trope (2004) to induce high or low level of construal was used. In the first experiment, moral judgments were measured using adapted versions of scenarios and response forms developed by Haidt (2001) and Haidt, Koller, and Dias (1993), which also had been used for the same purpose in the study by Eyal et al. In the second and third experiment, the moral behaviors were adapted to fit more into everyday life of the participants (i.e., college life). Furthermore, the second experiment included a manipulation check. In the fourth experiment, a different priming technique was used, namely an adapted version of a word generation procedure developed by Henderson and Trope (2009), and moral judgments were measured in the same way as in the first experiment. The fifth experiment was an exact replication of Eyal et al.'s Study 2, with the exception of the language being in English instead of Hebrew. In this case, construal level was induced by manipulating the temporal distance (i.e., tomorrow versus a year from now) to the moral scenarios. The scenarios used were the same as in experiments 1 and 4. Across all five studies, the results contradicted the notion that abstract thinking leads to stronger moral judgments.

**Replication studies and explanations for contradictory findings.** In response to the contradicting findings that show that both abstract thinking (e.g., Eyal et al., 2008) and concrete thinking (e.g., Gong & Medin, 2012) lead to stronger moral judgments, Žeželj and Jokić (2014a) conducted four high power replication studies in a different cultural setting, namely Serbia. Their results showed that moral judgments were (a) not affected by temporal distance, (b) stronger with increased social distance,

consistent with Eyal et al. (2008), and (c) stronger with lower level of construal, consistent with Gong and Medin. In addition to these studies, Žeželj and Jokić obtained an aggregation of databases from the three different laboratories as to compare the effects between the three contradicting studies (i.e., Eyal et al. in Israel, Gong and Medin in the US, and Žeželj and Jokić in Serbia). Žeželj and Jokić propose that the contradicting results could be explained by the fact that there is a complex interplay between (a) the domain in which the moral judgment is construed, (b) the procedures used to induce high- and low-level construals, and (c) cultural differences. Therefore, they suggest that future research should (a) develop clear manipulation checks of priming techniques, (b) compare the effects of different procedures, and (c) eventually establish the limits of CLT's generalizability.

In a comment to Gong and Medin (2012) and Žeželj and Jokić (2014a), Eyal et al. (2014) conducted a replication study of Gong and Medin's first experiment and Žeželj and Jokić's study 4, with the change that participants also could specify how much they thought about (a) the violated moral rule, (b) the circumstances leading to the behavior, and (c) the specific actions the actor performed. The study yielded similar results (although marginally significant) and the results of the added questions supported Eyal et al.'s explanation for the inconsistent results. Their explanation refers to the method used to induce construal level (i.e., the priming procedure by Freitas et al., 2004) in which construal level is induced by having participants consider *why* the moral transgression (*high-level construal condition*) versus *how* the moral transgression occurred (*low-level construal condition*). As the results of this replication show, the 'why' aspect, relative to 'how' aspect prompted the participants to seek explanations for the transgressions, making the mitigating factors more salient and the violated moral principle less salient. Thus, the moral transgressions were viewed as less morally wrong in the high-level construal condition. In brief, Eyal and colleagues acknowledge that even though CLT suggest that the 'why' aspects represent a higher-level of construal than 'how' aspects (e.g., Fujita, Trope, Liberman, & Levin-Sagi, 2006; Gilead, Liberman, & Maril, 2013; Liberman & Trope, 1998), it might depend on the context in which they are induced.

In yet another comment to the contradicting findings, Gong and Medin (2014) built on the propositions laid out by Žeželj and Jokić (2014a) and Eyal et al. (2014) by elaborating further on the underlying cause of the contradicting results. Their potential explanations are threefold; firstly, they argue that the 'why' versus 'how' manipulation of construal level may affect people differently depending on culture. Secondly, Gong and Medin propose that the effects of temporal distance may not correspond well to the effects of construal level as implied by CLT and that manipulation checks should be implemented in subsequent studies. Relatedly, they refer to research showing evidence for cross-cultural differences in how people perceive temporal distance (e.g., Boroditsky, 2001; Ji, Nisbett, & Su, 2001). Thirdly, Gong and Medin address the problem that most moral scenarios used in the discussed literature

are those developed and adapted by Haidt et al. (1993). This measure only captures a small scope of what morality entails and research has indicated that there are cultural differences in understanding and conceptualizing morality (Sachdeva, Singh, & Medin, 2011), limiting conclusions. As such, Gong and Medin encourage new, more comprehensive methods to be developed that are adapted to the culture in which they will be used.

As a rejoinder on the issue, Žeželj and Jokić (2014b) conducted a study comparable to Eyal et al. (2014), but with judgments being of morally virtuous acts instead of transgressions. Their study yielded similar results – namely, that people in the 'why' condition focused less on moral values and more on the circumstances. This, in turn, made them rate the behavior as less virtuous than those in the 'how' condition.

### Variables Moderating the Effect of Construal Level on Moral Judgment

A different set of studies show empirical evidence that the relationship between construal level and moral judgments is affected by various factors. The first study is by Pronin et al. (2008), who tested the relationship between construal level and moral judgment by investigating how moral decision-making was affected by psychological distance and social motives for the decisions made. In line with CLT, Pronin et al. found that decisions made for a temporally distant self and a socially distant actor are similar to each other but dissimilar to those made for one's present self. Inconsistent with the initial findings that psychological distance lead to stronger moral judgments (e.g., Eyal et al., 2008), Pronin et al. found that when participants' primary motive for their decision was prosocial feelings towards the target of moral concern, they made more morally virtuous decisions on behalf of their present self (i.e., psychologically close condition) than when decisions were made on behalf of temporally and/or socially distant actors (i.e., psychologically distant conditions). In contrast, when the primary motive for participants' decision was personal gain, they made more morally virtuous decisions on behalf of temporally and/or socially distant actors than when decisions were made on behalf of their present self. However, Pronin et al. did not pit their findings against Eyal et al.'s (2008). Rather, they argue that they both make the similar prediction that decisions for the present self are more likely based on low-level construals such as current subjective experiences of the present self. In Pronin et al.'s study, participants' current subjective experiences encompass feelings associated with having either prosocial motives (e.g., empathy) or proself motives (e.g., anxiety about neglecting one's own needs). The results of Pronin et al.'s study alludes to the notion that psychological distance can lead to both increased and decreased moral judgment, depending on whether that judgment is based on prosocial or proself motives.

A second study is by Agerström et al. (2010), who examined the relationship between abstract thinking and justice morality versus care morality. Justice morality refers to autonomy, impartiality, fairness, rights, and universal principles, whereas care morality refers to significance of relationships, not causing harm and the role of situation over principle (Kohlberg, 1981). Building on previous research showing that people are more justice-oriented when faced with hypothetical moral dilemmas, and more care-oriented when faced with self-experienced moral dilemmas (Wark & Krebs, 1996), Agerström et al. hypothesized that inducing an abstract mindset would lead people to be more justice-oriented relative to care-oriented. The results indicated that their hypothesis was only supported for female participants, whereas no significant effect was observed for men.

A subsequent study indicated that social motivation is another moderating factor in the relationship between construal level and moral judgment (Giacomantonio et al., 2010). Giacomantonio et al. (2010) based their study on previous research showing that morality and values become stronger at high-level construals compared to low-level construals (e.g., Eyal et al., 2008). They therefore hypothesized that chronic or temporarily activated social motivation (i.e., prosocial or proself value orientation) would be stronger at high-level construals and would therefore moderate the relationship between construal level and moral judgment. Their hypothesis was supported, indicating that prosocial individuals who think more abstractly act more cooperatively, whereas proself individuals who think more abstractly act less cooperatively. Furthermore, Giacomantonio et al. noted that as previous research on CLT and moral judgment indicated that abstract-mindedness leads to stronger moral judgments, the participants used in those studies may have had more of a prosocial value orientation, rather than a proself value orientation.

In yet another study, Luguri et al. (2012) examined whether high-level construals would lead to less prejudice and increased moral behavior by decreasing people's discrepancy between values of fairness and bias against non-normative groups (i.e., gay men, lesbians, Muslims, and atheists). Since this discrepancy between valuing fairness and being biased against non-normative groups is assumed to be most pronounced among political conservatives, the focus and moderating factors in this study were political ideology and value of fairness. The results showed that conservatives' tolerance for non-normative groups increased (i.e., the discrepancy between values and bias decreased) when adopting an abstract mindset, thus also increasing moral judgment.

A last moderator that has been investigated is intentionality (Plaks & Robinson, 2015). Intentionality was expected to have an effect based on the theoretical notion that moral responsibility depends on level of intentionality (Reeder, 2009) and the theory of distal and proximal intent (Plaks et al., 2009). Plaks and Robinson (2015) showed that in the high-level construal condition, participants judged actors with a distal intent (focus on the broader goal) as being more responsible, relative to those in the low-level construal condition. This finding suggests that the relationship between construal level and moral judgments depends on whether the actor that is judged is perceived to perform with a distal or proximal intent in mind.

## Evaluation

The described studies have all illuminated the association between abstract thinking and moral judgment. The direct relationship between the two constructs has received support from numerous studies discussed in this review, yet others also show evidence for this association not holding cross-culturally and cross-methodologically. The apparent gaps in this research field have motivated further examinations of factors that may affect the relationship between construal level and morality, yielding an array of interesting effects. As shown above, the initial findings on the relationship between construal level and moral judgments have primarily been challenged by (a) inconsistent results due to different methodological approaches, and (b) differences in results due to differences in theoretical assumptions. The following evaluation will therefore first elaborate on methodological limitations and then outline the main theoretical standpoints and connect these to the findings on CLT and moral judgment.

### Methodological Limitations

The majority of the reviewed research has leaned on findings indicating that the relationship between construal level and psychological distance is bidirectional (Bar-Anan et al., 2006; Liberman et al., 2007), thus assuming that the separate effects of these constructs on moral judgments should be the same. While some of the studies have been cautious enough to include measures or manipulations of both construal level and psychological distance (i.e., Agerström & Björklund, 2013; Agerström et al., 2010, 2013; Eyal et al., 2014; Gong & Medin, 2012; Lammers, 2012; Plaks & Robinson, 2015; Žeželj & Jokić, 2014a), other studies have generalized their results brought by one kind of construct to also apply to the other (e.g., psychological distance to construal level). Potentially, characteristics of participants and/or the setting of the experiment allowed for a larger congruency between construal level and psychological distance in cases where both constructs led to the same results. Nonetheless, there is also evidence indicating the opposite effect of construal level and psychological distance on moral judgment, potentially due to differences in samples and cultural settings (i.e., Eyal et al., 2014; Gong & Medin, 2012; Žeželj & Jokić, 2014a). This leads to the conjecture that the relationship between construal level and psychological distance may not be bidirectional and co-dependent in all cases.

Relatedly, another methodological limitation of the described studies concerns the amount of different methods that have been used to directly manipulate construal level. For instance, some of the methods used to induce different levels of construal have been to manipulate participants' focus on (a) the 'why' versus 'how' of certain events (e.g., Agerström & Björklund, 2013; Agerström et al., 2013; Gong & Medin, 2012; Luguri et al., 2012; Napier & Luguri, 2013; Rixom & Mishra, 2014; van Houwelingen et al., 2015), (b) the superordinate versus subordinate features of certain objects (e.g., Gong & Medin, 2012; Luguri et al., 2012; van Houwelingen et al., 2015), or (c) the big picture versus immediate consequences of the moral dilemmas (e.g., Lammers, 2012). Arguably, indications that

different kinds of manipulations of construal level lead to the same outcome adds to the construct validity of construal level. However, since different manipulations of construal level have also led to inconsistent outcomes—as this review shows—the construct validity of construal level falters.

### Theoretical Standpoints

In addition to methodological limitations, inconsistencies across studies could also be due to differences in theoretical standpoints. The following discussion is divided into how research on CLT and moral judgment connects to theories about individual differences and situational differences.

**Individual differences.** One theoretical perspective on how individual differences may influence the relationship between construal level and moral judgment is the theory of activation of idealistic versus pragmatic selves (Kivetz & Tyler, 2007). This perspective is adhered to by Agerström and Björklund (2009a, 2009b) and Rixom and Mishra (2014) who assume that high-level (versus low-level) construals activate the idealistic self (versus the pragmatic self), which follows moral values and principles that are central to the self to a greater extent. In their studies, moral values held by the idealistic self have been theoretically linked with moral values held by society in general. However, as Agerström and Björklund's study (2009a) shows, by assuming that inducing high-level construals leads to stronger moral judgment via activating the idealistic self, there is a risk of overlooking the possibility that people may hold values central to the self that do not comply with common moral norms. Hence, an activated idealistic self may modify moral judgment in different ways depending on the values central to the idealistic self and its salience. As such, future research based on Kivetz and Tyler's model should include measures of which values the participant perceives to be central to the self to make certain what role the idealistic self plays when making moral judgments. In other words, while viewing the activation of an idealistic self as situationally dependent one should not forget that the implications of this activation are dependent on individual differences in values central to the self. Relatedly, as pointed out by Giacomantonio et al. (2010), a potential underlying explanation for studies showing that abstract thinking leads to stronger moral judgments is that participants in those studies are more pro-socially motivated. This point is echoed in Pronin et al.'s (2008) study, which suggests that a potential underlying explanation for studies showing that psychological distance leads to increased moral concern is that participants in those studies are less influenced by current subjective experiences such as feelings associated with proself motives.

Other individual differences that interact with construal level and moral judgment are gender (Agerström et al., 2010), concerns about fairness and political ideology (Luguri et al., 2012), and intentionality (Plaks & Robinson, 2015). Notably, individual differences in cognitive flexibility may also play an important role in moral judgment, as Lammers (2012) found that heightened cognitive

flexibility leads to increased moral hypocrisy. Thus, it is evident that there are numerous factors that need to be considered and controlled for when investigating the relationship between abstract thinking and moral judgments. Regarding this, the inconsistent results that have been found may have been a consequence of not including potential moderating factors in those studies.

**Situational differences.** The effects of cultural differences on the relationship between abstract thinking and moral judgment are examined in only two studies in this review (i.e., Choi et al., 2012; Žeželj & Jokić, 2014a). While the predicted cultural differences did not reach significance in Choi et al.'s (2012) study, their results indicated that it was unclear for Korean participants whether they perceived one year as psychologically distant or near. In Žeželj and Jokić (2014a), the aggregated data of the three studies resembling one another (some of them exact replications) that were conducted in Israel (Eyal et al., 2008), the US (Gong & Medin, 2012), and Serbia (Žeželj & Jokić, 2014a) respectively showed significantly different results. The study conducted with Israeli participants indicated results consistent with the majority of results on CLT and moral judgment, the study conducted with American participants showed the opposite results, whereas the study with Serbian participants showed the same results as Eyal et al. when using temporal distance as a manipulation of construal level and the same results as Gong and Medin when using the 'why' versus 'how' manipulation of construal level. As the contradicting results are likely to result from a lack of reliability in the 'why' versus 'how' manipulation, it is still worth recognizing the possibility of cultural differences in responding to manipulations of construal level and measures of moral judgment. In order to make any inference about the effects of construal level on moral judgment, the generalizability of those effects has to be established. In this case, studies have been mainly conducted with students influenced by Western culture or values. Related, research has shown cross-cultural differences in how people perceive temporal distance (e.g., Boroditsky, 2001; Ji et al., 2001) and how morality is conceptualized (Sachdeva et al., 2011). There is clearly a gap in current research on CLT and moral judgments pertaining to the cross-cultural generalizability of both methodological approaches and findings with regard to construal level and moral judgment.

### Directions for Future Research
Considering the gaps and inconsistent results in current research on the association between abstract thinking and moral judgments, future research should investigate under which conditions of high and low construal levels construal levels are associated with stronger moral judgments. As has been evident in this review, this could be achieved by (a) manipulating construal level while also testing the effects of psychological distance, (b) using more valid methods of manipulating construal level, (c) including measures of potentially moderating variables, and (d) conducting studies cross-culturally.

Specifically, in future studies researchers should manipulate both construal level and psychological distance in order to outline the extent to which psychological distance and construal level lead to the same outcomes in terms of moral judgments. Further, the methods used to manipulate construal level should be compared, revised and improved in order to increase their construct validity and thus facilitate applicability of the methods in more diverse populations and settings. Another way to improve the construct validity of the manipulation of abstract thinking is to include manipulation checks when inducing construal level and psychological distance.

Furthermore, future studies aiming to investigate the association between construal level and moral judgments are encouraged to include moderating variables such as moral values and their salience (Agerström and Björklund, 2009a), gender (Agerström et al., 2010), social motivation (Giacomantonio et al., 2010; Pronin et al., 2008), concerns about fairness and political ideology (Luguri et al., 2012), and intentionality (Plaks & Robinson, 2015). This would serve to delineate under which conditions these variables have a moderating impact. Thus, mapping out individual differences by using Implicit Association Test (IAT; Greenwald et al., 1998) or self-report measures in future studies could make possible a more comprehensive framework of the association between construal level and moral judgments.

Lastly, future research should attempt to conduct studies in different cultures and settings in order to investigate the prevalence of congruency between psychological distance and construal level in different situational contexts. In turn, this could enable investigations of under which situational contexts abstract thinking leads to stronger moral judgments.

### Conclusion
The aim of the present review was to describe and evaluate studies pertaining to how abstract thinking influences moral judgments. Although many studies have found empirical evidence indicating that abstract thinking lead to stronger moral judgments, methodological limitations and differences in theoretical standpoints limit the conclusiveness of the effect of construal level on moral judgments. By highlighting potential explanations for inconsistent findings, as well as emphasizing how studies in this area of research relate to one another and to findings in other psychology research domains, the present review serves to guide future studies aiming to further investigate how abstract thinking modifies moral judgments.

### Competing Interests
The author has no competing interests to declare.

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