MORAL JUDGMENT COMPETENCE AND ATTITUDE AS MODERATORS OF DECISIONS CONCERNING WAR THROUGH PREFERENCES OF FRAMES AND ARGUMENTS ON THE IRAQ WAR

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ABSTRACT

This dissertation reports on research based on an experimental questionnaire designed using the theoretical validity, logic and the basic structure of the moral judgment test (MJT) Lind (1985). The study aimed at understanding how respondents' attitude bias and/or capacity to rely on internal moral principles contributed to rejecting or accepting political arguments "in favor of" and "against" a preemptive war with Iraq in 2003.

An experimental questionnaire examined factors, which respondents may have relied on in their acceptance of the arguments. It consisted of three components: 1) A brief vignette, 2) Respondents' own agreement with the need for the war and, 3) Twelve arguments from political speeches - Six by Bush and Blair "in favor of" (Pro,) and six by Chirac and Schroeder "against" (Con) the need for the Iraq war. Each argument was pre-scored using Kohlberg's (1984) stage theory and Common's (2004) Hierarchical Complexity Scoring System (HCSS). The details in each argument sentence were pre-scored using Kempf's (2003) Cognitive Escalation and De-Escalation Model (CEDM).

397 respondents responded using seven-point Likert scales. They rated their own orientation bias, indicating whether they disagreed or agreed with the need for the war. For each argument they also rated: Whether they would have rejected or accepted the main point of each argument as measure of acceptance, whether it seemed illusory or realistic as a measure of subjective validity and whether it evoked destructive or constructive feelings as a measure of subjective comfort.

Data analysis aimed first, at the probability that within subject design factors were significant and relevant in predicting respondents' aggregate acceptance of arguments. Second, at the probability that moderations by moral judgment competence and/or attitude bias as between subject factors were significant and relevant.

The analysis applied tests of covariance parameter estimates for Hierarchical Linear Models (HLM) proposed by Bryk & Raudenbush (1992) with Maximum Likelihood (ML), through the equation (1 – model covariance/intercept covariance). Acceptance for significance was set at probability level, $p < 0.01$. Acceptance for relevance adhered to Cohen' & Cohen's (1983) 10 % of the variance standard as criteria for model fitness. The pro and con slope intercepts for sensitivity to differences in stage represent respondents' conscious intent, while the slopes represent respondents' less conscious intent.

Both significant and relevant findings confirmed expectations consistent with theoretical formulations in the research design. They confirmed the theoretical validity of differences in moral judgment competence as defined by sensitivity to stage and the logic of the experimental design. They validated expectations for cognitive escalation and de-escalation details in conflict theory. They confirmed expected formulations of value in rational theory. Unexpected variations were explained using heuristics postulated in cumulative prospect theory by Tversky and Kahneman, (2000). Significant and relevant findings identified moderation of preference by two independent but inseparable aspects in competent decision-making: Respondents' attitude or orientation bias and respondents capacity to rely on internal principles.

Suggestions for further research include a stage model formulated to represent the relationship between orientation bias and reasoning as inseparable, but distinct aspects of decisional-competence.

To my Wife and my Father in memory of my Mother

For this world exists for the uncovering of darkness by making the unconscious more conscious and illuminating wisdom less concealed, making this a place for justice to dwell in. Choice and responsibility are the basis of justice or injustice.
R. Zalman S (1789) Likutei Amarim

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GLOSSARY TERMS AND ABBREVIATIONS

Aretaic judgments ..... Judgments of rightness
Beneficence ..... Higher Categorical Principle, against war arguments
C_score or C_index ..... Individual capacity to rely on internal principles
CEDM ..... Cognitive Escalation – De-escalation Model
CON ..... Arguments against war
Deontic ..... Judgments of responsibility
EQ ..... Experimental Questionnaire
Hierarchical ..... Stage or Stepwise Process
HCSS ..... Hierarchical Complexity Scoring System
Intercept ..... Slope crossing at point on Y axis
MJC ..... Moral Judgment Competence
MJT ..... Moral Judgment Test
PRE ..... Proportion Reduction in Error
PRO ..... Arguments In favour of war
Quasi Simplex ..... In a positive regression adjacent values are more similar
Restrictive Justice ..... Lower Categorical Principle, pro war arguments
Slope ..... Increasing or decreasing regression
Subjective-Comfort ..... Destructive v. constructive feelings evoked by argument
Subjective-Validity ..... Illusory v. realistic perceptions of argument
WMD ..... Weapons of Mass Destruction

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CHAPTER 1

INTRODUCTION: NOMENCLATIVE, PHILOSOPHICAL AND THEORETICAL ISSUES

There are two events significant to this investigation. The first is the terrorist attack on the World Trade Center in New York City on September 11, 2001. This is referred to as 911. The second is the war mounted to overthrow Saddam Hussein and the regime in Iraq on March 2003. This is referred to as the Iraq war or the war. References to 911 will focus on its strategic place in the political events in the 21st Century. Status quo or zeitgeist refers to the perceived status of the international political climate before 911 and after 911. This is also called the moral atmosphere. A shift in status quo refers to a change in the moral atmosphere. The moral atmosphere can represent a secure stance on equality, justice, non-violent peaceful cooperation and beneficence toward other humans. Conversely, it can also represent a restrictive stance on equality with considerations of violence as a means of not cooperating in resolving disagreements and conflicts in interest. Peaceful cooperation is considered to have a higher moral value than non-cooperation and violence. The first is also referred to as beneficence considerations, while the second is referred to as restrictive justice considerations. The exercise of beneficence is defined as rational actions aimed at averting risks that might result in non-cooperation and violence. Beneficence considerations are arguments aimed to support this type of moral action. The exercise of restrictive justice is defined as rational actions aimed at taking a risk in favor of competition and violence. Restrictive justice is derived from limitations placed on the exercise of human values of equality, justice or peaceful cooperation. Restrictive justice considerations are arguments aimed at lowering the quality of moral actions.

Moral values or principles refer to the basis for humane actions. A moral principle is a cognitive construct characterized by thinking aimed at moral reasoning. Moral reasoning is the exercise of moral thinking aimed at moral actions and behavior. Moral emotions are affects, which contribute to moral action such as empathy, compassion, beneficence, etc. The coordination of moral principles and moral emotions is also called moral

judgment. Moral judgment is the process of conceptualizing differences among moral criteria aimed at doing what is the highest moral alternative in a given context or situation. Hence, moral behavior completes the process of moral judgment.

Piaget (1932, 1965) developed a theory of four ages in his research on the cognitive and moral development of children. Later, Kohlberg (1971) extended Piaget's theory to six stages to incorporate the cognitive and moral development of adults. For Piaget the stages coincided with infancy (the sensorimotor stage), early childhood (the preoperational stage), middle childhood (the concrete operational stage) and adolescence (formal operations). In Kohlberg's scheme, these four stages were classed under the pre-operational level and the conventional level. He added a third post-conventional level that included two additional adult stages (systematic and metasystematic).

Competence is the capacity to rely on ones cognitive skills in coordinating the criteria necessary for action. Moral competence is the capacity to coordinate moral criteria necessary for moral action. Moral judgment competence is the capacity to rely on internal moral principles in coordinating cognitive skills and affects in order to behave in the best moral manner in any context. A moral dilemma is a characterization of a conflict in moral principles, which implicitly or explicitly incorporates emotions that may conflict with rules and moral alternatives. Resolving a moral dilemma requires the exercise of moral judgment competence. Alternative moral options are based on criteria, which can be organized in a hierarchical sequence. Each plateau in this hierarchical sequence is called a stage. Development is the process of moving from a lower stage to a higher stage. The development of moral judgment competence is the capacity to coordinate more differences in solving a dilemma, which results in higher stage solutions. Moral dilemmas can be solved at different stages of moral judgments. The stage of a solution is theoretically perceptible to persons who are competent in solving tasks at least at one stage higher than that of the solution. Lower moral solutions are; therefore, accessible to more persons than higher moral solutions.

An agent is a person with a given level of competence, who is responsible for a moral action. An option to act in accordance with a solution at a lower stage than that of the

agents' competence is a risk. The choice to avoid behavior at the lower stage solution is risk-aversion. The choice to engage in the lower stage behavior is risk-taking. A gain is defined as an increase in beneficence, cooperation, tolerance, etc. A loss is defined as an increase in restrictions and limitations on beneficence that lowers cooperation by increasing intolerance and competition. Escalation is the process of decreasing cooperation and communication, and of increasing antagonism and non-cooperation. De-escalation is the reverse process, increasing discourse and cooperation by providing solutions to avoid competition.

The aim in this investigation is to examine factors and heuristics associated with agents' competence in resolving the dilemma of the need for the Iraq war. Agents must contend with two allegations. The first represents restrictive justice considerations favoring risk-taking on the costs of war because Iraq had possession of weapons of mass destruction (WMD) with the intent to use them against the western world. The second represents beneficence considerations, favoring risk-aversion against the costs of war because the conflict could be resolved in a peaceful manner. Weapons of mass destruction are nuclear, chemical and biological weapons that could impersonally kill large masses of innocent humans simultaneously.

Chomsky (2004, p. 251) identifies two ways to look at law and war: The first he says is classical. He quotes from Thucydides, "large nations do what they wish, while small nations accept what they must." The second he describes as "[A] framework of international law and institutions to which the powerful also subordinate themselves." He identifies the "United Nations Charter as the foundation of contemporary international law, since World war II". "It imposes strict restrictions on the threat or use of force" in international affairs of war and peace. Only when "a country is under armed attack" can it act in self-defense, "until the Security Council takes over."

These are not equivalent perspectives, they reflect very different basis for judgment. The first can only address Kohlberg's *pre-conventional level*: If it reduces judgment to power, it can be compared to *terror*. If might makes right and the strong decide, it can be compared with *capitulation*. Of course, large nations can decide to show beneficence to

smaller nations. Small nations can also decide to submit to the larger nations in hope of eliciting compassion and consideration. In this case, acts of beneficence can be restricted to how useful the small nation is for the larger nation. This can be compared with *equilibrium*. The risk that the larger nation will show beneficence is uncertain, but can be predicted by examining the hierarchy of Justice principles available to members within the larger nation.

The second suggests a coordination of values, rights, equity and justice and could address concerns at Kohlberg's *post-conventional level*: If it is systematic, it will require that the intent and purpose of the rule dominate. If it were meta-systematic, it would involve the coordination of various systems of nations, of laws, of rules and of contingencies. Its judgment would not be biased by the identity of individual systems. This coordination can also address concerns at the *conventional level*: At the formal, it would simply require rule compliance. At the abstract, it would simply require submission to the popularity of individuals.

The first seems much more stereotypical and simplified than the second. It provides less information. The emotional hues seem more pronounced and the reasoning less developed. The first can conceivably lead to the second through "decentration", "coordination" and "integration". The ability to concentrate on more than one aspect, object, situation or relationship can facilitate coordinating and integrating their differences (Piaget, 1960; Selman, 1980; Golec, 2002, 734). As a spectrum, increasing differentiation, coordination and integration of interests, rights fairness and justice would result in a discourse - "*Verständigung* - the process of achieving mutual understanding" in Habermas' inter-subjective process (Cooke, 2003, p. 282).

The reverse can theoretically occur through disintegration in the capacity to coordinate more than one perspective. Integrative complexity maintains that emotional stress results in stereotypical simplification with a preference for competition and aggression. (Guttieri, Wallace & Suedfeld, 1995; Suedfeld & Tetlock, 1977; Golec, 2002) This suggests, first that people with more advanced cognitive skills approach conflicts in a more cooperative manner than people who lack such skills. Second, that people with

more advanced cognitive skills become less cooperative when faced with an emotional attack (Golec, 2002).

Competitive, coercive attitudes are more likely when individuals are faced with circumstances that interfere with their capacity for differentiation. Individuals in a conflict facing an emotional attack on their position may be less likely to access their full range of skills. In one direction, individuals can access higher skills, in the other; they access lower skills in making sense of their surrounding reality (Piaget, 1960; Rosenberg, 1988; Golec, 2002).

Einstein warned against the archetypal image of mankind's potential to destroy itself in an interview he gave to Michael Armine, published in The New York Times Magazine on June 23, 1946 and titled "Only Then Shall We Find Courage". "Today the atomic bomb has altered profoundly the nature of the world as we know it, and the human race consequently finds itself in a new habitat to which it must adapt its thinking... Never before was it possible for one nation to make war on another without sending armies across borders. Now with rockets and atomic bombs, no center of population on the earth's surface is secure from surprise destruction in a single attack... Few men have ever seen the bomb. But all men if told a few facts can understand that this bomb and the danger of war is a very real thing, and not something far away. It directly concerns every person in the civilized world. We cannot leave it to generals, senators, and diplomats to work out a solution over a period of generations… There is no defense in science against the weapon, which can destroy civilization. Our defense is not in armaments, nor in science, nor in going underground. Our defense is in law and order… Future thinking *must* prevent wars."

For some historical examples of how these concerns supported restrictions in beneficence one can turn to McCarthy's war against socialistic ideology and the fear that communism would sneak into the western world, taking over our minds and control over the propaganda machine. The fear was of communist insurgency or being taken over by communists. They could take over the political process and force the free world to submit to the roots of the Kremlin, Marx-Lenin-Stalin-Khrushchev. There were 67

nuclear detonations by the United States on the Marshall Islands between June 1946 and August 1958. This was an average of 5.5 nuclear detonations per year, which is about one every two months or every 8 weeks. The potential impact of these events on the ecology of the planet was not strong considerations at this time.

This fear was prevalent in covert activities during the Kennedy administration and characterized as the threat of communism on the free world. There was the Cuban missile crisis and the assassination of John and Robert Kennedy. The fear of insurgency escalated into fear of attack capabilities. Only the strong survive led to escalation in capability, the arms race between the Soviet Union and the United States. This dominated the 1980s. Finally, during the Reagan administration, Gorbachev made a post modern, meta-systematic, or perhaps paradigmatic move and ended the arms race. He took on the least preferable option from the perspective of the perceptual illusions in the prisoners dilemma game that dominated the thinking at the time. We want to win they must want to win. We will do anything we need to win, and so will they. Destructive capability is crucial to dominate, we must control more destructive capability than they control. If we disarm, they will continue to arm and we will lose. If they say they will disarm it is only a ploy because they want to win and will secretly build greater weapons capability. So, we must build our weapons capability regardless of what they say they will do. Both sides held on to identical illusions about losing and wining; however, Gorbachev dismantled the illusion by a unilateral move to disarm. The key difference here was that the governments were involved in their perceptual dilemma while their constituencies no longer accepted the illusions.

On receiving the Nobel Prize (1963) Puling, said: “I believe that there will never again be a great world war - a war in which the terrible weapons involving nuclear fission and nuclear fusion would be used. The discoveries of scientists upon which these terrible weapons have been developed are now forcing us to move into a new period in the history of the world. A period of peace and reason, when world problems are not solved by war or by force, but are solved in accordance with world law, in a way that does justice to all nations and that benefits all people.”

Today it seems clear enough, the Iraq war was planned without the consensus of the national or the international public. The main thrust in the reasoning supporting the war centered on the first perspective. It was quite clear all along that the Darwinian dominance of the powerful was the driving force. International discourse or dialogued mediation was not an equal option because it could be simply overruled by the Darwinian entitlement of the powerful.

Critics attribute Kohlberg as assuming an automatic and direct path from knowledge of moral principle to moral action. Thus, an overwhelming higher moral value of justice, equity and beneficence would automatically overrule the right of might. Would there have been a war?

According to the view that moral principles lead to moral action, the higher moral value of the principled perspective, as a meta-systematic dialogue, Habermas (Discourse) would have automatically become the moral option and the guide to moral behavior. If indeed behavior follows knowledge, then the principle would have been a decisive factor in the moral solution to the dilemma. It is clear that moral action was hampered by other factors.

Colby & Damon (1992) identify criteria for persons who can serve as moral exemplars. Moral persons must show signs of a sustained commitment to moral ideals, principles or a generalized respect for humanity. This includes a disposition to act in accord with these ideals or principles. It implies consistency between one's actions and intentions and between the means and ends of one's actions. It includes a willingness to risk one's own self-interest for the sake of moral values and a tendency to inspire others to moral action. This can include a sense of realistic humility over one's own importance relative to the world at large.

Bergman (2002, p. 104) states that "under the powerful influence first of Jean Piaget and then of Lawrence Kohlberg, developmental psychology has paid relatively less attention to issues of moral motivation than of moral cognition". He maintains, "For Kohlberg motivation was practically subsumed under cognition." Kohlberg (1970, p. 57) "... as I

have tried to trace the stages of development of morality and to use these stages as the basis for a moral education program, I have realized more and more that its implication was the reassertion of the Platonic faith in the power of the rational good."

How effective was the reasoning in favor of and against the Iraq war? Engaging in counter factual reasoning, if the need for a public referendum had been a natural development of a discourse, how would the reasoning in favor of and against the war have affected the public's opinion? Would the public's sense of moral responsibility have been stunned, traumatized or blinded by the propaganda in the media or would it have reached a valid and comfortable resolution? Bandura (2001) maintains that people must believe their actions can produce desirable effects and forestall undesirable ones, or they will not have the incentive to act. Alternatively, were they already traumatized by the events of September 11?

Chomsky (2004, p. 254) states that the new doctrine of September 2002, by National Security Strategy NSS, claimed the right to "pre-emptive" war. Pre-emptive war he says can be stretched to fall under Article 51 as: "A reaction against ongoing or imminent attack before it actually takes place". This new doctrine is also incorrectly called "preventive war". The pretence that the war was a preventive measure was attributed to Iraq's possession of WMD and its ties to terrorists. These claims, which were hard to take seriously before the war, had already been abandoned by Spring 2003. Chomsky, argues that the new version of the NSS grants the U.S. the authority to attack a country that has the "intention and ability" to produce WMD.

One question underlying this investigation is whether the events of 911 produced a shift in the perceived status quo in security within the western world from a sense of growth and stability to one of hyper-vigilant uncertainty. Beneficence as a moral principle requires moral behavior to promote the good. Murphy (1993) argues against the demands of the simple principle of beneficence. He says it can require too much from an agent in making up for the deficits caused by others who refuse to do their share. He argues in defense of a more restrictive application of the principle of beneficence, where a person is only responsible for his own share. A restrictive view would not demand that agents

increase compliance to compensate for the failure in compliance by others. Mulgan (1997) argues that individual responsibility may require a single agent to make the world a better place, while collective responsibility requires that a group or set of agents make the world a better place and so it does not require that any one person do it alone. This of course complicates the tension between believing one can have an affect and not being required to solve the international dilemma on one's own. If beneficence demands that the recipient merit good by others, then perceptions of potential recipients as ungrateful or less deserving would be affected by a shift in the status quo, perhaps reducing the demands on individual and collective responsibility.

Drawing on psychological formulations regarding risk-taking propensities in Prospect theory, (Tversky & Kahneman, 2000), one might propose that the loss of growth and stability would be over-weighted along with the reduced sense of responsibility. Hyper-vigilant uncertainty would be under-weighted along with the demands of the principle of beneficence. From a higher moral perspective, the loss would be a real loss, while the gain would also be a loss. Hyper- vigilant uncertainty and under-weighting of the application of beneficence is certainly not a gain. In this case, a shift in the status quo would highlight a change in risk tolerance as a function of how perceived potential losses or potential gains are framed (Goldgeier, & Tetlock, 2001).

Frederking (2003) maintains that the rules governing global security were not fundamentally changed by the events on September 11. In this case, the shift was not a systematic certainty, however, he also maintains, that existing tensions on implementation of global security were exacerbated.

There is ample evidence to suggest that images and fantasies evoked by terrorism and the goals of expanding war were manipulated by the media and self-serving political interests. The risks associated with terrorism and weapons of mass destruction (WMD), were implicitly and explicitly amplified to Armageddon or Apocalyptic proportion.

Images of what they are threatening to do to us and to our way of life, and images of the course that one must pursue were aimed at agitating fears against doing nothing and

calming fears against the moral responsibility not to go to war. This would promote moral justification as a means of moral disengagement by rendering fear and competition highly accessible. A shift in reasoning might be framed as, since they are trying to destroy us, we must and will defend ourselves. If we do not go to war, they will destroy us. This reflects a shift from an earlier frame, which rendered the need for war less accessible, since we are strong and in control, we need not employ violence to defend ourselves. War is the last option.

The urgency to attack Iraq played on these fears by exaggerating and fabricating a threat of Weapons of Mass Destruction in the hands of rogue states, which harbor and support terrorists groups. The main thrust in the media and in self-serving politics was to maintain the association between the threat and preemptive war as a solution to avoid allegedly real catastrophes (Chomsky, 2004).

The public's capacity to securely dismantle this rhetoric depends on their perception of its validity and their comfort with the effectiveness of the proposed solution i.e., the public's capacity to accurately assess the validity of the problem and an appropriate and comfortable response.

A subsequent question is whether the anxieties associated and evoked by the manipulation of such an awesome fear might disrupt the public's capacity to decide on the appropriate moral response. Blasi (1999, p. 7) says, "Fear is appropriate and rational when it arises in response to a dangerous situation, perceived as dangerous, and therefore related to the person's concern for self-protection" Thus, two factors that affect a competent decision are: How valid is an argument in favor of or against the war? How comfortable is the main thrust of an argument?

1.1. PEACE, CONFLICT AND WAR JOURNALISM

Peace is not a state of eternal harmony. Peace is a social contract that enables parties to deal with conflicts in a cooperative environment" (Kempf, 2002, p. 61).

By 1988, the status quo in the arms race between the United States and the Soviet Union had been identified by Plous (1987) as best characterized by a perceptual dilemma rather

than by a prisoners dilemma game model. The prisoners dilemma had been the model for escalation because each party believed that the other party wanted escalation and that escalation was the only means of not losing. Plous (1987) helped uncover what he called a perceptual dilemma underlying the prisoners' dilemma game. In the perceptual dilemma, Plous (1987) found that perhaps both sides wanted to initiate disarmament initiatives because the losses in the arms race were greater than the gains; however each side was committed to continue escalation only because each believed that the other was invested in escalation. While both believed that the other's goals were incompatible with their own then escalation was inevitable. As soon as this illusion was dispelled then de-escalation was possible. This was a shift in the status quo from escalation to de-escalation. After 911, there was a shift back to escalation.

A conflict whether intra-personal or social represents incompatible goals, behavior and/or actions. "A social conflict is latent as long as the parties are unaware of being in conflict with each other. The conflict becomes manifest as soon as the parties are aware of it," (Kempf 2003, p. 14). All conflicts can be conceptualized or framed as a cooperative or competitive process. Kempf (2003) promotes the notion of constructive conflict coverage. He defines divergence when either side of a conflict focuses on his own rights and intentions and the threat by the others' actions that also conflict with mutual goals and intentions. Peace or a cooperative environment is modeled as a win-win. Conflict then is a mutual problem, which can be resolved serving both parties' needs and interests (Deutsch, 1973; Kempf, 2002). Parties can cooperate in a constructive atmosphere, which increases communication and reduces misunderstanding. If parties delve into the issues behind in conflict, they can define a resolvable problem and optimize mutual contributions. Empathy can help reduce defensive strategy. Positive attitudes for the other increase sensitivity to mutual interest and reduce the impact of differences. Thus reducing the intensity of a conflict further reduces the probability of violent escalation. For Galtung (2002) and Kempf (2002) peace research focuses on aspects of moral empathy, to which one could add compassion and beneficence. In moral cognitive developmental theory, these can be compared with perspective taking or discourse. It can mean simply trying out someone else's shoes or walking a mile in them. In order to

empathize with the enemy, one would have to understand ones own goals, interests and intentions better. However, Galtung and Kempf clearly describe how once we define an enemy we are no longer able or willing to understand him and the cognitive frames change from risk aversion to risk taking.

There is a risk that mutual interests are passed over and that insufficient agency results in a hasty unstable solution. A failure in cooperation biases the conflict toward competitiveness (Kempf, 2002). In the zero sum game of the arms race in the 1980's perceptual illusions based on the projection of ones own plans and strategies on the enemy served to increase escalation in the arms race. Destructive conflicts tend to spread and escalate. Issues become inflated and conflicts can outlive the relevance of forgotten issues. Communication is neglected and used for propaganda to intimidate the opponent (Kempf, 2002). Competition implies that the conflict can only be resolved and enforced at the expense and resistance of the opponent (Deutsch, 1973; Kempf, 2002). It supports increasingly more drastic and violent means to enforce own goals against the other's resistance. This process can be identified as win-lose and its escalation as lose-lose. Once the conflict is competitively manifest, each party's subjective view further changes the conflict. Goals are issues competing on rights and interests. The focus is on action that augments the problem and/or diminishes the probability of arriving at an appropriate resolution to the dilemma.

1.1.1. Cognitive Escalation and De-escalation Model

The cognitive escalation and de-escalation model (CEDM) pursues cognitive frames in conceptualizing a conflict as a cooperative or a competitive process. The escalation process is defined in three steps from competition to struggle to warfare. The reverse would mean de-escalation and divergence of goals and interests would be resolved by win-win strategy culminating in cooperation. Competition and struggle are defined as win-lose. Warfare is defined as lose-lose. The steps under competition include hardening of position, debate and settled facts. The steps under struggle include image and coalitions, losing face, and strategies of threat. The steps under warfare include limited blows of destruction, paralyzing the enemy together into ruin (Kempf, 2002).

Divergence located between cooperation and competition can potentially be resolved by either with very different implications. By focusing on wins and losses, content and details can influence characteristic biases and embedded attitudes. A closed rigid response leads to escalation and polarization. An open flexible response increases the potential for discourse, dialogue, communication and cooperation in endeavors of mutual interests.

The CEDM is theoretically grounded in peace studies, peace psychology and the psychology of Journalism. It is a model that deals with content and specifically with the details used either to promote escalation or to promote de-escalation in conflict situations. It depicts a development in the theory of conflict, which grapples with the problems of the prisoners' dilemma game and its perceptual illusions. It examines reporting as an agency responsible for constructive conflict transformation and criticizes propaganda methods and pitting good against bad as in journalism of attachment and in classical objective reporting (Kempf, 2003).

The model attempts to identify by classification cognitive changes during conflict escalation and aims at constructive conflict coverage. Kempf (2002) and Galtung (2002) analyze problems and solutions associated with the theory of zero-sum games. The role of the media as a participant in the conflict must move beyond the dilemma in journalism of attachment, where the subjective view overshadows and conceals the mutual or cooperative objectives. A cooperative solution is said to exist when achieving their goals for each party are positively correlated. A competitive situation emerges when each party achieving theirs goals are negatively correlated.

By classifying text directly with the CEDM, researchers have been able to identify manifest and latent patterns in media articles, media discussion and in the study speeches. Since moral judgment competence is potentially independent of content, the CEDM serves to facilitate the process of understanding the differences between the effect of attitude and the effect of competence. Table 1 shows the escalation steps between cooperation and warfare as categories that connect meaning constructs with the classification of details.

An analysis of the dual aspects of emotionally charged context and the structure moral judgment competence would benefit by an enhanced treatment of attitudes, which can be achieved by accessing details that influence emotions more directly. The interplay between context and structure defines the basis of decision-making under risk and uncertainty. The risks of rigidifying attitudes include the disruption of competence, the loss of communication, the imbalance of emotions, the escalation of conflict and a decrease in security.

Table 1 The cognitive escalation de-escalation model

Escalation Step	Cooperation	Perspective divergence	Competition	Confrontation	War
Conceptualization of conflict	Win-win orientation	Bias towards win-lose but win-win still possible	Win-lose (possibly defused by rules of fairness)	Win-lose (increased by threat strategies)	Zero sum orientation, Force as the appropriate means of solving conflict, emphasis on military values, transfer from win-lose to lose-lose
Valuation of rights and aims	Mutual respect of all participants and emphasis on common interests	Focus on own rights and needs (including common interests), the rights of others, however, vanish from the field of vision	Focus on own rights and needs; common interests however vanish from the field of vision	Emphasis on own rights and needs combined with questioning the rights of the opponent and condemning his intentions	Idealization of own rights and needs, at the same time contesting the rights of opponent, demonization of his intentions and denial of common interests
Evaluation of actions	Consideration of the benefits of each of the parties	Focus on own benefits (also those resulting from the mutual relationship)	Focus on own benefits	Justification of own actions and condemnation of those of he opponent	Idealization of own actions demonization of the actions of opponent
Emotional involvement	Empathy and mutual trust	Conflict between threat and trust	Focus on own threat, that of the opponent disappears from the field of vision, mutual trust is lost	Emphasis on own threat and the danger from the opponent creates a delicate balance between threat and confidence in victory; the threat to the opponent is actively denied; mistrust exists	Balance between threat and confidence in victory continues to exist, mistrust directed also against neutral third parties who attempt to mediate in the conflict, indignation against the war turns into indignation against opponent

1.2 STAGE THEORY

In the developmental literature, justice and moral concerns are best represented by stage theory research, which stresses that the use of hierarchical constructs is positively correlated with acceptance, appropriateness and fit (Piaget, 1960; Kohlberg, 1984; Lind, 2004). This developmental view maintains that moral decisions are based on principles, varying in hierarchical reasoning characterized in stages of development as spurts and plateaus. Dawson (2003) finds that stage-scoring systems are theoretically equivalent whether they represent domain specific or non-domain specific constructs. As a theory of Cognitive development, stage reasoning is deemed essential for comparable stage behaviors.

1.2.1. From Moral Reasoning to Moral Action

The controversy among moral principles, moral emotions, moral identity and moral action is expanse and informative although no one procedure fully accounts for the transition between moral judgment and moral action; except, that the best approaches combine moral principles and moral emotions. Some turn to moral identity and moral character, while others turn to questions of competence.

Since there is room to speculate further, one might suggest that Tversky and Kahneman's, prospect theory of choice can be instrumental in accounting for how moral thought results in moral action. Without equating moral judgment with a simple gamble, in moral choices under risk and uncertainty the heuristics affecting moral action can resemble under-weighting of gains and over-weighting of losses with risk aversion from the domain of gain to risk-taking from the domain of loss.

In Kohlberg's, Heinz dilemma, respondents must consider the risk of breaking the law and going to jail and the risk of Heinz' wife dying, or the stranger or the dog. It is only the weighting of the risks, which leads to the higher moral choice. If for instance, Heinz would have to kill the druggist to get the drug, the moral choice would be more complicated as indeed, a life is a life. For instance, if a person is bitten by a stray dog and there is a concern of rabies, it is morally acceptable to kill the dog and examine its

brain to try to save the person. Here of course a human life has greater moral value than the life of an animal (Colby et al., 1994).

The consequences anticipated by emotions can serve as reasoning in practical decisions to reject or accept an action – intention (Blasi, 1999; Greenspan, 1988; and Peters 1970). Beginning with a real dilemma, which evokes emotional anxiety and fear, or courage and resiliency, how might reasoning incorporate the effect of these affects in a competent moral decision?

1.2.2. Moral Emotions, Moral Identity and Moral motivation

Despite this controversy, Stage theory has retained a dominant and exclusive place in the study of moral judgment and moral reasoning. However, understanding how moral intentions are formed and how they result in moral action trails behind this bi-directional view between moral reasoning and moral behavior.

"Piaget acknowledged that love (or ''care'') might be in conflict with ''short-sighted justice'' but he argued that ''between the more refined forms of justice, such as equity and love properly so called, there is no longer any real conflict'' (Piaget, 1932/1965, p. 324)**.** In this case, beneficence or acts of beneficence are in conflict with restrictions in applying beneficence or restrictive justice, which can be resolved by maximizing beneficence and fairness. This clearly requires a particular competence in weighting the appropriateness of beneficence and the application of fairness.

"Integrative complexity is a formal characteristic of the knowledge structures people use to make sense of the world, which takes into account both their *differentiation* and *integration*. Differentiation refers to the degree to which individuals are able to simultaneously analyze many independent dimensions or aspects of a situation, whereas integration refers to the degree to which individuals perceive conceptual connections among these dimensions" (Tetlock, 1989; Golec, 2002, p. 733).

In relationships with mutual respect, justice and care would not be in conflict; equity would involve the appropriateness of both justice and care. Persons with high integrative

complexity would understand others' perspective in conflicts and be more ready to search for an agreement. Persons low in integrative complexity would see only their own side in conflicts and tend to be more competitive (Wallace, Suedfeld, & Thachuk, 1993).

Gilligan's (1982) distinction between justice and care is part of a wider discussion in the philosophical literature. ''In the past these principles have served as core elements of two contrary traditions in moral philosophy. Hegel was the first to argue that we misperceive the basic moral phenomenon if we isolate the two aspects, assigning opposite principles to each.'' Habermas (1990, p. 201) argued that these two principles are internally connected within moral argumentation and that ''morality thus cannot protect the one without the other'' (Habermas, 1983/1990, p. 200).

It is not the scope of this thesis to attempt to resolve any of these core issues in Stage theory and moral development. Instead, it is an attempt to account for the effect, of the heuristics of subjective validity and subjective comfort, on respondents' choice and acceptability of arguments.

The role of emotion in motivation is twofold. First, there is a threshold of minimal anxiety necessary and required for action. A second threshold of sufficiency in anxiety must be maintained to limit disruption by excess. The conventional anxiety curve maintains that a minimum level of anxiety is critical for adequate performance. Below this critical level anxiety interferes with motivation and very high levels disrupt ones capacity for judgment.

While this is not a serious concern in many hypothetical moral conflicts or dilemmas, excluding the likelihood of individual personality complexes, it does become a concern in some real life dilemmas. In dilemmas where the moral agent perceives a real and potential threat to her own life or security both of these thresholds become relevant.

The second role of emotion is in accessing a "gut feeling" or "intuition", which Krettenauer & Edelstein (1999, p. 900) maintain can have an effect on action equal to that of higher moral reasoning. "Habermas (1990) and Gibbs (1979) suggested that post-conventional stages might not represent natural developmental outcomes but rational

reconstructions of culturally embedded post-conventional moral knowledge that is already intuitively attainable at the level of conventional morality." (Krettenauer & Edelstein, 1999, p. 901) "A post-conventional moral point of view can be achieved intuitively already at the conventional level."

For Blasi (1999, p. 1) "Moral understanding cannot fully explain moral motivation or the individual differences that can be observed in moral behavior". He is not completely satisfied with the account of moral functioning offered by the ideas systematized by Piaget and Kohlberg. Conceptual considerations derived from everyday experience raise doubts

Having a good, developmentally advanced understanding of morality does not guide moral agency in one's choice of action. The failure of cognitive-developmental explanations of moral thought and moral actions reawakens the influence of moral emotions.

Sympathy, empathy, guilt and shame are seemingly capable of supplementing moral understanding by motivating moral action. However, does the psychological explanation to moral behavior lie in emotions? Considering interpretations and meaning, subject to moral agency one might ask: how can moral emotions serve to explain human emotion?

One can have a moral identification with principles of consistency, loyalty, empathy, beneficence, compassion, equity, etc. This list of positive attributes can hypothetically be extended to include all constructs that potentially contribute something new to ones own concept of the moral identity. Let us add that this ideal moral person also resists contradictions, which would diminish the moral quality of his actions. This person would be able to coordinate all of these principles in all contexts. If these principles contradicted each other then he would adhere to the order and combination of these principles, which can combine to form a hierarchical order of moral actions. He would choose the path to the highest moral action in a given context.

In defining developmental stages for moral identity, one could ask every moral person known to list all the attributes that make up his construct of moral action that he can

successfully transform into his highest moral behavior in a series of contexts. Having done this one can derive a measure of the likelihood that persons with a very high moral identity will select the highest hierarchical behavior appropriate in most contexts. One would still need to address the problem of moral compliance by persons with moral identities that are not so highly developed. One might derive hierarchical estimates of persons ranging from very little moral identity to very high moral identity. This process could be repeated for persons' capacity to resist the tendency to rely on fixed attitudes and the negative influence of competitiveness, imbalance and discord. The resulting hierarchical sequence could be called stages of emotion identity. One might compare these with stages of ego identity.

Thus, in the end one can determine developmental stages for moral identity, moral emotion, moral judgment, and moral action. If these were to be coordinated, one would arrive at stages for competence. What are the stages of competence? Lind might say that in measuring moral judgment competence one derives an index, which can be grouped in a hierarchical order to approximate a series of stages, which can be called stages of moral judgment competence.

Kempf (2002) describes how the process from totalitarianism to democracy in the former Yugoslavia revealed underlying ethnic complexes and attitudes. Therefore, a different stage of moral judgment competence would depict varying capacities to control against this form of political regression. Both the individual varies in his capacity for moral agency and the collective varies in its potential for moral action. Stages of individual moral competence must somehow also correspond to the stages of collective behavior.

We agree with Jervis (2004, p. 163) "Prospect theory makes significant claims about humans by pointing to the sources and substance of what it is that provides us with gratification. What do people seek and why do they seek it? What do people value?"

The abilities to differentiate and to coordinate perspectives can be achieved by early adolescence (Piaget, 1960; Piaget & Inhelder, 1968). However, the rate of cognitive development may vary from domain to domain (Brainerd, 1978). In the abstract

domains, it may be less accessible to experience. Differentiation and coordination is delayed in interpersonal relationship (Selman, 1976, 1980) morality (Kohlberg, 1984) in the domain of politics (Rosenberg, 1988, 1992, 1994). Individuals may never develop the highest levels of understanding (Kohlberg, 1984; Rosenberg, 1988). Adults will differ in their understanding of attitudes toward conflicts and in interpreting political conflicts (Golec, 2002).

1.2.3. Moral Judgment

Piaget's understanding of the relation of thought to action is a fundamental element in his study of morality in children. Bergman (2002, p. 105) finds that moral motivation can be subsumed under character and trait psychology. Consistency in "what a person says he ought to do, or even what he thinks he ought to do, and what he actually does " would define a person's moral integrity. Inconsistency would define a failure of reasoning in action, which can be attributed to *Akrasia* i.e., weakness of will. The failure of moral integrity or character is used to explain why moral action does not always follow moral judgment. This problem is both a philosophical and psychological concern in the relationship between thought and action (Bergman, 2002; Locke, 1983).

This lends credence to everyman's experience that horrible acts reflect a weakness in moral will and are therefore crazy acts, although clinically these actors are not insane and truly insane persons do not commonly commit such crazy acts.

Bergman maintains that Piaget was interested in how action is incorporated into thought and how thought lags behind action. This "action/thought problem" (Locke, 1983, p. 161), is the reverse of how thought leads to action. "Children learn the ethic of cooperation through their capacities for sympathy, mutuality, and role-taking" in unsupervised symmetrical peer interactions and "practice the ethic of constraint out of fear, respect," and obedience or affection for authority in asymmetrical interactions with adults (Bergman, 2002, p. 106).

Since Kohlberg, a growing concern in the cognitive-development literature is how reflection or thought leads to moral action. Moral action is seen to lag behind reasoning.

However, Kohlberg also found "that some individuals act in concert with stages more advanced than their moral judgment stage" returning to Piaget's notion that reflection is not a necessary factor in moral action and lags behind it (Bergman, 2002, p. 107). Thus, Kohlberg distinguished between type A and type B moral orientations. Type A corresponds to Piaget's heteronymous moral type. Piaget's autonomous inarticulate cooperative moral type is compared with Kohlberg's type B person. Intuitively in his 'heart' or 'conscience' Type B perceives the central values and obligations rationally articulated by type A in the next higher stage, Type B uses intuition to arrive at a judgment of responsibility necessary in resolving a dilemma (Kohlberg & Candee, 1984).

Type A represents the path from reasoning leading to moral action, while type B represents the path from intuition to moral action and perhaps to moral reasoning. For Piaget development in moral thought derives from moral action. A child must observe the consequences of actions before reflecting on the effect of the action. For adults waiting to see the consequences before deciding on the appropriateness of the action can be quite devastating. Moral imagination, personal experience, the experiences of others and philosophical understanding of justice principles allows for reflection on the potential consequences prior to action, i.e. moral thought, then can lead to moral action. Kohlberg reflects that while moral action can lead to moral thought, moral thought also leads to moral action. He maintains that a new stage in moral judgment may guide new behavior, whereas a new action involving conflict and choice may lead one to construct a new stage of moral judgment (Kohlberg & Candee, 1984). Persons may arrive at identical solutions either by reasoning or by intuition.

The main thrust in Kohlberg's theory of moral stages is that understanding principles results in the appropriate action, whether this is direct automatic or an inductive reasoning process. This principled focus has been extensively criticized for heavy reliance on rational principles. According to Colby (2002, p. 134), Blasi "has made it very clear that Kohlberg was wrong when he assumed that moral understanding will almost inevitably be expressed in moral action. Mature morality also requires the development of moral identity and people's capacity to be faithful to these moral dimensions of themselves without achieving a false sense of integration through self-

deception." Despite these, Kohlberg (1994) maintains that Piaget's and his position is that the development of cognition and affect have a common structural base, rather than that cognition determines affect and behavior. Critics of the automatic transition from thought to action have returned to concepts of moral identity and moral character.

1.2.4. Moral Judgment Competence

Lind (2004) does not contend with Kohlberg's critics. He agrees that cognition and affect are two inseparable aspects of a common structural base, but for Lind (2004) this common structural base is moral competence and not moral identity or moral character. In the dual aspect model, he argues that moral competence mediates between moral ideals and moral action. Thus affect and cognition are distinct, but inseparable aspects of moral judgment competence.

He maintains that this is in line with both Piaget and Kohlberg, where the affective and the cognitive are distinguishable but inseparable aspects of moral behavior. Lind argues that attempts to measure the effect of cognition or the effect of emotion using separate dilemmas, conditions and/or separate instruments results in error. The problem he maintains is that their effects can only be distinguished when assessed within the same context and conditions. Lind's solution to this problem is the moral judgment test (MJT). The MJT is designed to address this theoretical consideration, which years of assessment have helped confirm the theoretical and empirical validity of this dual aspect theory in moral judgment competence.

For Lind the Moral Judgment Test is an experimental questionnaire consistent with current knowledge of the nature of moral judgment behavior. It aims at exploring contested assumptions and hypotheses by incorporating three properties in human moral judgment behavior that are well-confirmed facts: "Quasi-simplex structure of moral orientations, hierarchical preference order of moral orientations, and affective-cognitive parallelism" Lind (2004, p. 31). Quasi-simplex structure refers to the proximity between adjacent stages and the increased difference between non-adjacent stages. Hierarchical preference order maintains that higher stages are preferred over lower stages. Affective-

cognitive parallelism maintains that arguments consistent with ones attitude are better acceptable than arguments inconsistent with ones attitude because the later produce emotional conflict or resistance. These three properties serve as rigorous criteria for validating and certifying the Moral Judgment Test.

Lind (2004) has demonstrated that the scores produced with the MJT, in various language versions, confirm these three properties attesting to the theoretical and empirical validity of the MJT. He thus maintains that differences in C-scores (as a measure of moral judgment competence) across various cultures reflect true differences in moral judgment competence. This cannot be discredited by a lack of pragmatic equivalence among different test versions. By constructing a test using the criteria outlined for the Moral Judgment Test, it was hoped to confirm these same three criteria. In so doing to validate not just the moral judgment test, but also the theoretical structure on which it is based i.e., the structure of moral judgment competence. Lind (2005, p. 3) quotes from Kohlberg's (1985, p. 522) notes: "Moral behavior is concerned with the study of action, where a person gives up something or takes risks where not doing so would appear to be to his or her immediate advantage." The test of moral behavior involves overcoming such situational pressures on either a verbal or a physical level.

The ability to reason rationally in the case of self-defense is a difficult matter. Once a person makes up his own opinion about an issue, the opposing view confronts his cognitive structure. Persons may refuse any argument, or wave any form of reflection whether supportive or opposing. The basis for their decision is more emotional. Theoretically, this leads to greater rejection of lower stage and greater acceptance of higher stage as a characteristic of higher moral judgment competence. Thus, the variance between each person's slope is moderated or reduced by MJC such that the steeper the slope the more differentiated the reasoning. The use of pro and con arguments provides each person with two slopes one for pro and one for con. The C-score combines both intercept and slope in reducing the mean difference between respondents' acceptability of pro and con arguments at higher levels of moral judgment competence.

The process in competent moral judgment is not arbitrary nor is it a simple choice as in coin tossing, however it does involve risks, uncertainty, gains and losses. Thus, by examining some of the heuristics accounting for the public's perception and behavior, the theoretical validity of the meaning and measurement of moral judgment competence as defined by Lind (2004) might also be confirmed.

1.2.5. Dual Aspects

Moral justification serves as a process of moral disengagement, where war is judged regrettable, but necessary. War seems morally justified when non-violent alternatives to conflict resolution are judged ineffective (McAlister, 2000). Moral knowledge and moral responsibility seem to correspond with Bandura's (2001) dual aspects in moral agency, which include both the power to behave humanely and to refrain from behaving inhumanely. These can be compared to Kohlberg & Candee's (1981) distinction between *deontic* judgments of rightness or justice (e.g., it would be morally right for me to […]) and *aretaic* judgments of responsibility (e.g., it is my responsibility to […]; I am accountable if I [do or] do not [… do it]). (Colby et al., 1994, Pulka v 5, p 121.)

For the purpose of validation the measurement and meaning of the experimental questionnaire Lind (2004), identifies eight main postulates that are relevant for measuring moral judgment competence.

First is the inseparability of affective and cognitive mechanisms. Moral affects are value ideals portraying a person's thinking and competence in moral behavior. To measure them properly, a study of moral competence cannot be defined or measured without reference to the person's moral ideals or principles. An adequate instrument must be designed to assess both aspects within the same pattern of a person's judgment behavior (Piaget, 1976, p. 71; Lind & Wakenhut, 1985; Lind, 2000).

Second is the need for a moral task. An instrument must contain a moral task, which requires moral judgment competence to solve it. The task must require persons to deliberate on a moral dilemma using both arguments that counter and arguments that

agree with his or her opinion (Keasey, 1974; Kohlberg, 1958; Lind, 1978; Lind & Wakenhut, 1985).

Third is an aspect of non-fake-ability. A reliable measure of moral judgment competence should not be susceptible to faking of higher competence scores (Emler, Renwick, & Malone, 1983; Lind, 2002).

Fourth is a sensitivity to change. An instrument must be sensitive to real changes over a wide range. It must be sensitive to upward changes due to moral learning and intervention and downward changes due to erosion of competence. Lind opposes Kohlberg and colleagues in maintaining that the instrument must not be tuned to disguise the presence of erosions in competence. He notes how Kohlberg (1984, p. 411) concluded that the data questioned the construct validity of his measure, but not the truth of Piaget's sequence hypothesis. Lind reports interesting cases of competence erosion after correcting for this measurement bias (Lind, 2000; 2002).

The fifth are Internal moral principles. A measure of moral judgment competence should account for a person's own moral principles and not for externally imposed moral expectations (e.g., the test constructor's moral preferences) (Pittel & Mendelsohn, 1966; Kohlberg, 1964).

The sixth he calls quasi-simplex and references to hierarchical sequence. If the test dilemmas demand principled moral judgment, the acceptability ratings of each stage should confirm the notion of an ordered hierarchical sequence, that is, the correlations among the stage ratings should form a quasi-simplex structure (Kohlberg, 1958; Lind, 2000).

The seventh is parallelism. Distinguishable affective and cognitive aspects of moral judgment behavior are to independently score yielding parallel measures, which correlate highly with each other (Piaget & Inhelder, 1969; Lind & Wakenhut, 1985; Lind, 2002).

The eighth is equivalence between pro and con-arguments. To measure moral competencies irrespective of a person's own attitude on the dilemma presented,

equivalent pro- and con-arguments should be presented. For example, the acceptability or defensibility of arguments in favor of the need should be comparable with that of arguments against the need for war. (Lind 2005, p. 28) "The phenomenon of 'moral segmentation' needs attention in further studies." (Lind, 2000; Schillinger-Agati & Lind, 2003) Moral segmentation "does not invalidate the MJT" but reveals an additional strength in the MJT. It enables the detection and study of the segmentation phenomenon in detail. Thus, this suggests the need for further research in evaluating and analyzing the overall C-score for real life dilemmas to check for the possibility of segmentation among the lower scores. Segmentation can be compared to divergence induced by propaganda and indoctrination (Kempf, 2002).

While there are many methods for scoring stages, some are considered domain specific, while others are independent of domain specificity. Kohlberg's, Standard Issue scoring system is specific to the moral domain. It would seem appropriate in a study on moral issues of war and peace. Indeed the concept of peace is associated with principled beneficence and principle of cooperative justice while war is associated with severe limitations and restriction on beneficence due to a failure in cooperation. However, the specificity of the scoring items does not lend themselves easily to text scoring without extensive questioning as in the moral judgment interview. Commons et al, The Hierarchical complexity scoring system is independent of domain and context, which facilitates scoring when extensive inquiry is not feasible. Dawson (2003) compared both scoring systems and obtained results, which indicate that there is no substantial difference between the stages on either system. She concludes that a stage is [simply] a stage.

Moral dilemmas are generally scored for the reasoning which persons use in explaining their decision rules. These can consist of multiple dilemmas or of multiple issues associated with one dilemma. From his direct study with Kohlberg, Lind was impressed more by Kohlberg's Type A and Type B constructs. Type A consists of persons who can reason their way from principles to responsibility and to moral action. Type B consists of persons who intuitively make similar decisions as type A without pursuing from reasoning in principles. As mentioned above Type B seems more fitting in work with children and education because, as Piaget maintains, moral thought in children derives

from their behavior and interactions. Lind's interest in children's moral development led him to construct an experimental questionnaire, which he has developed for over 20 years titled the Moral Judgment Test. The test makes use of two dilemmas. For each dilemma, he provides six arguments in support of the outcome proposed in the dilemma and six arguments opposing the outcome. Each argument represents one of Kohlberg's six stages of moral judgment. Thus, the arguments in each group represent a hierarchical sequence with a parallel structure between the two groups. By comparing how respondents use the stage sequence in rating, the arguments he derives a person measure, which he calls the C index to represent the degree to which each person relied on internal moral principles. Hence, it is considered a measure of a person's moral judgment competence.

When something is important to you even if you are not a genius you will come up with brilliant arguments. So wondering whether the public would exhibit sound reasoning or not, the effect of two subjective factors and two argument qualities, which might contribute to respondents' acceptability of arguments in favor of and against the Iraq war were also examined.

1.2.6. Aim of Investigation

A primary concern in this investigation is on respondents' capacity for moral reasoning and the likelihood that the effects of a real life dilemma would evoke the use of moral principles. "People often fail to use their highest stage of moral judgment when reasoning about the moral dilemmas encountered in everyday life." (Carpendale, 2002, p. 184)

The effect of two heuristic factors on respondents' acceptability of pro and con arguments are: 1) a subjective measure of the validity of the argument i.e., respondents' perception of arguments as realistic or illusory; 2) a subjective measure of comfort i.e., respondents' experience of arguments as evoking destructive or constructive feelings.

The effect of two arguments qualities on respondents' acceptability of pro and con arguments are: 3) a measure of the relative frequency of escalation details in pro-

arguments and de-escalation details in con-arguments; 4) a measure of the argument's structure i.e., a stage score using the HCSS

Their significance in predicting respondents' acceptability were examined with the equation: $Y = \beta_{00} + \beta_{10}*X(1) + \beta_{20}*X(2) + r_0 + r_1*X(1) + r_2*X(2) + \varepsilon$, Y = Respondent's acceptability, $X(1)$ = arguments position in favor or against the war and $X(2)$ = perceptions of realistic or illusory, constructive or destructive feelings, escalation and de-escalation details or the stage of the argument.

The moderation by moral judgment competence and/or attitude bias on the effects of an argument's perceived validity, experienced comfort, frequency of details, and stage of structure on respondents' acceptability of pro and con arguments were examined for relevance and significance of moderations by these two variables. In the equation: $Y = \beta_{00} + \beta_{01}*Mod(1)\ e + \beta_{10}*X(1) + \beta_{11}*Mod(1)*X(1) + \beta_{20}*X(2) + \beta_{21}*Mod(1)*X(2) + r_0 + r_1*X(1) + r_2*X(2) + \varepsilon$; Y = the percent of the variance of respondent's acceptability, $X(1)$ = arguments position in favor or against the war, $X(2)$= perceptions of realistic or illusory, constructive or destructive feelings escalation and de-escalation details or the stage of the argument and $Mod(1)$ = Moral judgment competence or attitude bias as moderators.

It is expected that respondents' perceptions of arguments as realistic or illusory will affect their accepting or rejecting of arguments. This effect is moderated by the argument's aim in favor or against the war, by respondent's attitude bias based on the argument's aim in favor or against the war and by respondent's capacity for moral judgment competence irrespective of whether the argument is in favor or against the war. Similarly, the effect of constructive or destructive feelings evoked by the argument is moderated by the aim of the argument, respondents' attitude bias based on the argument's aim and respondent's MJC irrespective of argument's aim. The effect of the frequency of de-escalation and escalation details is moderated by respondents attitude better than by respondents' capacity to rely on internal principles, while the effect of stage structure of the argument is better moderated by respondents' MJC than by their attitude bias.

The official version of the Iraq war is: It began on March 19, 2003 and ended on May 1, 2003, lasting for six weeks. Before March 19, proponents in favor of and against the need for the war promoted their position in political speeches. President Bush and Prime Minister Blair in an extensive effort spoke ***in favor of*** the need for war, but failed to achieve the support of the majority of the international community. Chancellor Schroeder and President Chirac spoke ***against*** the need for war, but were not effective in preventing the war. How can one account for these failures?

Our aim was to assess whether within-subject and two between subjects design factors might help explain Respondents acceptability of arguments in favor of and against the Iraq war. The design factors using definitions described by Popper & Eccles (1977) are classified in three groups. The first group includes factors with manifest properties such as the aim of the argument, the stage of the argument and the frequency of escalation and de-escalation details. The second group includes factors involving psychic reactions, thoughts and feelings such as whether an argument seems realistic or illusory, or provokes constructive or destructive feelings. The third group includes latent factors involving interactions between manifest properties and psychic representations.

1.3 FRAMING FOR EXPECTED UTILITY VALUE AND PROSPECT THEORY

Boettcher (2004, p. 332) is concerned that issues be explored thoroughly in careful experimental work before engaging in case studies to demonstrate the effectiveness of "prospect theory based explanations of political behavior". This study defines the expected utility value for gain and loss rationally and only pursues prospect theory to explain unexpected variations.

Kahneman (2002, p. 449, 481) distinguishes between "two generic modes of cognitive" functioning. The first is an "intuitive mode in which judgments and decisions are made automatically and rapidly, and the second is a controlled mode, which is deliberate and slower". These may be comparable to Kohlberg's type A and B, the dual - cognitive and emotional - aspects in moral judgment competence see Lind (2005) as well Bandura's (2002, p. 101, 111) dual aspects in moral agency: "The power to refrain from behaving inhumanely and the proactive power to behave humanely."

"Perceptual and intuitive operations generate involuntary *impressions* of the attributes of objects of perception and thought that need not be verbally explicit." *Judgments* are always explicit and intentional, whether or not they are overtly expressed and whether they originate in impressions or in deliberate reasoning. "Impressions are easily accessible and can be determined by different aspects and elements of a situation, the different objects in a scene, and the different attributes of an object. Intuitions are judgments that reflect impressions directly. In Contrast, deliberate reasoning moderates thought and behavior in forming a judgment " (Gilbert, 2002; Stanovich & West, 2002; & Kahneman, 2002, p.451).

Because impressions are easily accessible, deliberate framing is a crucial aspect influencing decision-making. Judgments "(whether overt or not) are endorsed, at least passively" (Kahneman, 2002, p. 451, 452, 481) by reasoning. Kahneman & Frederick (2002) suggest that monitoring is normally quite lax, and many intuitive judgments are expressed, including some that are erroneous.

Framing is a central factor in the transition from rational utility theory to prospect theory. Broadly defined the concept of "framing" refers to the process through which "individuals or groups make sense of their external environment" (Boettcher 2004, p. 332-333). Information filtered through cognitive, affective, and/or social perspectives produces perceptions of the outside world. These perceptions construct a reality that "then drives judgment, decision-making and ultimately behavior." Framing "is necessary because the external environment is ambiguous and expansive." Individuals' cognitive capacities restrict input to those "accessible dimensions deemed necessary to reach a sense of closure". This is an internal process, which guides external sanctions and behavior.

Understanding of framing in prospect theory is narrower. Tversky and Kahneman (1981, p. 453) defined framing as "the decision-maker's conception of the acts, outcomes, and contingencies associated with a particular choice". "Framing is thus limited to three specific elements of a choice: the actor's perception of the alternative courses of action,

the outcomes associated with those alternatives, and the probabilities associated with particular outcomes" (Boettcher, 2004, p. 333).

Framing highlights the importance that individuals attribute to the means over the ends in the process of achieving goals. This is comparable to a formulation of competence as a process of coordinating integrated differences.

We narrow the definition of framing even further to derive specific operational elements relevant to choice within the frame of a dilemma. Let us say that three variables are held together by the strong attraction to intuitive hues, mediated by impressions and fantasy. Increasing the distance between the variables represents an increase in the tension of the attraction binding them together. Rationally, the subjective-validity of an argument i.e., perception of argument as realistic or illusory, interacts with beneficence or restrictive justice considerations to justify accepting the frame of the argument or not. Similarly, subjective-comfort hues (i.e., constructive or destructive feelings evoked by the argument,) the moral stage of the argument and the escalation and de-escalation details in an argument also interact with beneficence or restrictive justice considerations to justify accepting the frame of the argument or not (Gross, Politzer & Wilczek 2004) - *Nobel Prize in Physics*. One might then add that a person's attitude bias or moral judgment competence collide with each of these combinations to determine respondents' acceptance of arguments (Kahneman (2002).

Framing of a problem can be compared to alternative perspectives, which affect a person's visceral-neurological network i.e. gut. Definitions of framing center on emphasis and equivalence offered and/or perceived with subtle or tacit associations. Goffman (1974, pp. 10-11) defines a frame of a situation "in accordance with [identifiable] principles of organization that govern social events" and persons' "subjective involvement in them". These are selected principles used for emphasis and presentation of associations between reality and consequences. "Frames are principles of selection, emphasis, and presentation composed of little tacit theories about what exists, what happens, and what matters." (Gitlin, 1980, p. 6) "A decision-maker's conception of the acts, outcomes, and contingencies associated with a particular choice" Tversky and

Kahneman (1981, p. 453). A "central organizing idea" that suggests what a controversy is about, "weaving a connection" among "the essence of the issue" and the meaning it provides "to an unfolding strip of events" (Gamson and Modigliani, 1987, p. 143). "The concept of framing refers to subtle alterations in the statement or presentation of judgment and choice problems." (Iyengar, 1991, p.11) Human cognitive capacities set up frames that structure understandings of the way aspects of the world function (Goffman, 1974, Fillmore, 1985; Sweetser and Fauconnier, 1996). Framing includes "specific words," "orienting headlines" and "rhetorical devices" selected to limit the portrayal and orientation in a situation (Cappella and Jamieson, 1997, p. 39).

An essential aspect of rational theory is that differences in framing must not change verifiable perceptions; however, Tversky & Kahneman (1986) have shown that framing effects violate this expectation. Acceptance or rejection of an argument based on perceptions of the arguments validity, its comfort, its principles, its structure or particular signs and posts in the content are modified by respondent's attitude, competence or both.

"The framing of outcomes is more easily understood" when "coded as a 'gain' or 'loss' relative to a 'reference point' that can be the status quo or an "aspiration level (Heath, Larrick, & Wu, 1999)" Boettcher (2004, p. 333).

Competence then incorporates two sides of framing: The capacity to integrate gain frames such as realistic, constructive, beneficence considerations, de-escalation details and post conventional reasoning. Second, the capacity to coordinate loss frames like Illusory, destructive, restrictive considerations, escalation details and conventional reasoning. Respondents' acceptance of loss frames implies risk-taking behavior, while their acceptance of gain frames implies risk aversion.

1.3.1. Expected Utility Value Consideration (reasoning)

Utility value considerations are rational and sometimes logical expectations. (1) It is rational that arguments employing beneficence principles ought to be better accepted, than arguments employing restrictive justice considerations. In principle good, peaceful relations are preferred over difficult, conflicted relations. (2) Arguments scored at post

conventional stages ought to be accepted better than arguments scored at the conventional stages. Conflict resolution is not a simple task and is not easily addressed by conventional reasoning, but often requires post conventional logic. (3) Arguments with a higher relative frequency of de-escalation details should be accepted over arguments higher in escalation details. More information aimed at reducing the polarization in a conflict is naturally interesting, while more information aimed at escalation is usually redundant. (4) Arguments perceived as realistic should logically be accepted over arguments perceived as illusory. Realistic information is helpful and encouraging, illusory information is provocative and disappointing. (5) Arguments evoking constructive feelings should logically be accepted over arguments evoking destructive feelings. Constructive feelings are comfortable and encouraging, destructive feelings are provocative and discomforting. (6) Arguments consistent with one's own attitude should rationally be accepted over arguments inconsistent with ones attitude. This satisfies criteria in belief-bias. (7) Greater capacity for internal principles ought to lower the differences between realistic and illusory perceptions in item 4 above, while lower capacity should increase the difference. (8) Greater capacity for internal principles implies greater sensitivity to stage differences, which should increase the effect in item 2 above, while lower capacity should decrease the effect by lowering stage sensitivity.

Solutions to a dilemma can be framed in more than one way. "Rational choice requires that the preference between decision options should not reverse with changes of frame." This approach to framing continues to be intuitively interesting and worth exploring further. "Imperfections in human perception" and decision-making allow for "changes in perspective" that potentially reverse preference, the relative importance of arguments and "the relative desirability of options" (Tversky and Kahneman 1981, p. 453).

Cognitive illusions produced by attribute substitution and differences in accessibility have the same character as perceptual illusions. "An impression of one attribute is mapped onto the scale of another, and the judge is normally unaware of the substitution" "Kahneman and Tversky (1973) illustrate a cognitive illusion arising from attribute substitution" as illustration of "the hypothesis of substitution" labeled by Kahneman and Frederick (2002) as '*heuristic elicitation*' (Kahneman 2002, p. 467).

We employ elicitation heuristic by asking whether the argument seems realistic or illusory and felt to evoke destructive or constructive feelings. One-sided arguments, which employ heuristic elicitation, are considered propaganda and rejected when recognized as bias particularly when it is inconsistent with one's attitude.

"Respondents who substitute one attribute for another are not confused about the question that they are trying to answer – they simply fail to notice that they are answering a different one. And when they do notice the discrepancy, they either modify the intuitive judgment or abandon it all together." (Kahneman 2002, p. 469)

1.4. Instrument of Moral Judgment Competence

In deciding on an instrument for this investigation, the focus was on issues of competence rather than on issues of identity and character. The experimental questionnaire (EQ) constructed aimed at addressing the need for methods accounting for the relevance of the subjective standpoint, the enmeshed dynamics of a real international event in respondents' lives and direct sources of argumentation (LaLlave, 2002). The structure and logic of the moral judgment test design (MJT) Lind (1982) seemed consistent with these aims and goals. An EQ, consistent with the underlying logic of the MJT, could confirm the experimental validity, the logic of the measures and formulations regarding the structure of competence itself.

Two measures were used to distinguish between the effect of structure and the effect of content associated with the argument. The argument's structure is measured by moral stage and the content is measured by a cognitive measure for details. This allowed for an examination of the effect of content independent of the broader issues of competence itself.

The EQ was combined with the Cognitive Escalation and De-escalation model (CEDM) (Kempf, 2003). The CEDM, used for analysis in current literature on Peace Psychology and the Media, focuses on the details in the news. This was employed to measure the details in the arguments. Combining this CEDM with the EQ enabled formulating

questions that draw comparisons on the effect of the design factors on respondents' aggregate acceptability of arguments.

How does our experimental instrument of moral judgment competence compare with Lind's (1985) Moral Judgment Test Lind (1985)? First, how are they similar? Both instruments use a moral dilemma. The moral dilemma in either instrument is followed by six arguments endorsing the outcome and six arguments opposing it. Each of the six arguments represents one of Kohlberg's moral judgment stages. Our moral dilemma concerns the Iraq war. We used a statement about the beginning and ending of the war as the dilemma.

Second, how do the instruments differ? The experimental questionnaire (EQ) in this study is not a translation of the MJT. It is an instrument designed to measure moral judgment competence by its correspondence in structure and logic with the MJT. It involves an entirely different moral dilemma and the arguments used are based directly on political speeches. Furthermore, the basic design was extended to include a measure of the influence of two types of intuitions about each argument: a perception of its validity and of the comfort in felt emotion.

Lind's MJT formulates arguments using moral constructs that correspond with Kohlberg's moral stages; we selected twelve quotes from political speeches before the war to serve as arguments. Six arguments by G.W Bush and T. Blair represented the position *in favor of* war and six arguments by J. Chirac and G. Schroeder represented the position *against* the war.

The MJT uses a workplace and a mercy killing dilemma, which respondents may or may not have thought about directly. EQ employs a real dilemma, which has evoked feelings and thoughts for all respondents. The structure of the arguments is comparable because they are scored by stage. The MJT uses arguments representative of Kohlberg's six stages of moral judgment; Stages assign each argument a discrete and invariant position within a structural and meaningful hierarchy. These represent Kohlberg's pre-conventional, conventional and post-conventional levels,

EQ employs arguments comparable only to Kohlberg's Moral Stages 3, 4, 5, and 6. These represent four higher stages that focus on the transition between conventional and post-conventional reasoning. It was difficult to find arguments to represent the lower pre-conventional level. Limitations based on data sources restricted argument selection. The sequence of stage from the most to the least advanced element is shown below (table 2).

We used the hierarchical complexity scoring system (HCSS) Commons et al (2004) to score each argument. It derives from Kohlberg's stages of moral judgment and corresponds highly with argument structure rather than with content. The Hierarchical Complexity Scoring System HCSS was selected because it is not domain specific and because it facilitates scoring excerpts from political speeches. The literature supports the likelihood that domain specific and non-domain specific scoring systems are comparable as Dawson (2003, p.335) observes, "a stage is a stage". By retaining the procedure, that Lind uses with the MJT a comparable C_index was derived as a measure of respondents' capacity to rely on internal moral principles.

1.4.1. Stage Scores

Table 2 Stages of moral judgment in the arguments

Stages	Kohlberg	Elements of Argument Structure
Stage 5	6	Integration of multiple systems,
Stage 4	5	Integration of a single system,
Stage ¾	4	Presence of formal properties without integration of a system,
Stage 3	3	Presence of abstract elements without formal properties

These four stages represent the transition from abstract thinking to multiple systems thinking. Similarly, they represent the developmental transition from interpersonal choice, through choice by rule, then choice by a system of rules, to choice by multiple systems. The stage for any argument represents the presence of the highest aspect found among abstract elements, formal properties, whole systems, or multiple systems.

Increases in stage are empirically and theoretically associated with better respondent acceptability of the reasoning and of the argument (Kohlberg, 1984; Lind, 1985).

Conversely, decreases in the stage are empirically and theoretically associated with lower respondent acceptability of the reasoning and the argument. The use of hierarchical stages enabled the selection of pro and con arguments comparable in structure, as the score is relatively independent of content.

1.5. THE WITHIN-SUBJECT FACTORS INVESTIGATED IN THIS STUDY ARE:

1.5.1. Manifest Argument Framing:

The frame of an argument as either in favor of or against the need for war serves opposing aims. Arguments framed to favor the war attempt to increase the tension in the conflict by justifying restrictive justice considerations and moral disengagement. Arguments framed to oppose the war attempt to reduce the tension in a conflict by justifying beneficent considerations and moral agency.

The frame of the structure of the argument representing abstractions in the symmetry is defined by the moral stage of the argument. Higher stages represent arguments with a strong and balanced structure. Lower stages represent weak and poorly balanced structure

The frame of an argument is implied by the use of escalation and de-escalation details. Beneficence considerations are implied by the density of de-escalation oriented details in con arguments. Restrictive Justice considerations are implied by the density of escalation-oriented details in pro arguments.

1.5.2. Framing of Psychic Representations

The subjective frame of an argument is represented by perception of arguments as realistic or illusory. Arguments subjectively perceived by a realistic frame are accepted. Arguments perceived by an illusory frame are rejected.

The subjective frame of an argument is represented by constructive or destructive feelings evoked by the argument. Arguments framed as evoking constructive feelings are accepted. Arguments framed as evoking destructive feelings are rejected.

1.6. BETWEEN SUBJECTS FACTORS

1.6.1. Framing of Moderating Representations

Respondent's attitude in favor or against the war serves as a frame to filter arguments. Arguments consistent with respondents' attitude on the need for war are accepted. Arguments inconsistent with respondents' attitude on the need for war are rejected.

Moral Judgment competence measured by the C-index serves as a frame for respondent's level of competence. Frame for high C index scores represents greater competence and reasoning capacities in nullifying differences based on the arguments aim by reliance of moral principles. Frame for low C index scores represent lower competence with automatic intuitions that augment the differences based on the argument's aim by lower reliance of moral principles. The C index frames the degree to which respondents' will rely on moral principles in a similar context.

1.7. HYPOTHESIS

1. There is a relationship between beneficence/restrictive justice considerations and respondents' acceptance of arguments.
2. There is a relationship between the stage of the arguments and respondents' acceptance of arguments.
3. There is a relationship between the relative frequency of the escalation / de-escalation details in arguments and respondents' acceptance of arguments.
4. There is a relationship between the perceived realism of the main point of arguments and respondents' acceptance of arguments.
5. There is a relationship between constructive feelings evoked by the main point of arguments and respondents' acceptance of arguments.
6. There is a relationship between respondents' attitude bias and respondents' acceptance of arguments.
7. There is a relationship between respondents' capacity to rely on internal principles and respondents' acceptance of arguments.
8. There is a relationship between the literature on conflict theory and the results derived using the CEDM.
9. There is a relationship between the theoretical validity of the MJT and the theoretical validity observed with the EQ in this investigation.
10. There is a relationship between expectations based rational utility theory and the results of this investigation.
11. There is a relationship between cumulative prospect theory and the violations in rational theory observed in this investigation.
12. There is a relationship between framing in the domain of loss and risk-taking propensities.
13. There is a relationship between framing in the domain of gain and risk aversion.

CHAPTER 2

METHODOLOGY: SAMPLE, SUBJECTS, ADMINISTRATION AND PROCEDURE

2.1. INSTRUMENT: EXPERIMENTAL QUESTIONNAIRE

2.1.1. Vignette

> The war against Iraq began on March 19 2003. A discussion of the reasons for the war, the role of the UN weapons inspectors, Saddam's cooperation, and the question of a UN resolution required to back the war had been going on for months before March 19th, when fighting began anyway. The process and the results are different than most persons had anticipated. On May 1 2003, President Bush declared that the major combat operations had ended in Iraq.

We added the qualifier that the process and the results are different than most persons had anticipated, as a reminder that there are perceived discrepancies at the time of this study – one year later. If the person had anticipated a long war they might think this means that the war was short, or vice versa. If they favored the war, they might think that war was unfavorable, or vice versa. Thus, we maintain that the qualifier addressed some of the obvious discrepancies without biasing one view more than the other view.

2.2. COGNITIVE ESCALATION AND DE-ESCALATION MODEL

Using Kempf's (2003) Cognitive Escalation and De-Escalation Model we obtained a measure of the relative frequency of escalation and de-escalation details in each argument by scoring each Sentence in an argument. The model served to score arguments with the relative frequency of its details. Thus, we obtained a measure of the density of pro and con details in the arguments.

The Model represents two sides of a conflict, one side is escalation oriented and the other side is de-escalation oriented. Each sentence is scored for details that represent: conceptualizations of the conflict situation, war parties rights and intentions, war parties actions and emotional involvement or identification shown in table 1, CEDM above.

2.3. SAMPLE

2.3.1. Subjects

The total number of respondents sampled was 397. From these 87.7 disagreed with the need for war, 4.3 were uncertain and 8.1 agreed. Over 50, (56.4) percent were women, 23.9 percent were men and 19.6 did not specify gender; (74.6) percent were between the ages of 18 and 20 years. Seventy-one (71) percent were German Nationality. Eight (8.6) percent were American. Thirteen (13.1) percent did not specify.

2.3.2. Administration

The administration of the instrument was comprised of two primary groups. The first group represents 86.9% of the total sample, while the second represents 13.1%. The following are the characteristics of the two samples.

The first group was comprised primarily of students, 57.4% women, 20.9% men and 21.7% of unspecified gender; Eighty five - 85.5% were between the ages of 18-20 years. In this first group, 80.6% were of German nationality; 92.2% disagreed, 3.5% were uncertain and 4.3% agreed with the need for war.

The second group was comprised mostly of professionals, 50.0% women, 44.2% men and 5.8% of unspecified gender; 41.8% were over 50 years, 22.8% were between the ages of 40-49 years; 28.5% were between 30-19, 24.7% were between 20-29, 3.8% were younger than 20. In this group 59.6% of respondents identified as Americans, 57.7% disagreed, 9.6% were uncertain and 32.7% agreed with the need for war.

2.3.3. Procedure

The first group was administered a beamed Image of the Instrument in an auditorium setting accompanied with a pencil answer sheet. This group is comprised of six different sessions, a morning and an afternoon session on three consecutive days in Mar 2004. German Gymnasiums and the University of Konstanz in Germany arranged the sessions

in the context of a yearly visit by pre Abitur students for orientation to the studies in psychology.

The second group consisted of professional persons who completed a web instrument. Persons responded to a notice sent through several discussion lists, which included Program of Psychiatry and the Law, American Moral Education Society, Society for adult development, and Piaget list. Eighty-five - (85) percent responded between May 12 and May 20 2004. Fifteen (15) percent responded in June and later in the summer of 2004.

Forty four percent of respondents did not indicate their level of education. The largest group reporting a High School or Abitur level consisted of 41.3%; 11.3% held BA, Master or doctorate degree. Three percent were below high school.

CHAPTER 3

METHODS OF DATA ANALYSIS: HIERARCHICAL LINEAR MODEL

The analysis employed tests for Hierarchical linear models (HLM) for continuous individual outcomes recommended by Bryk & Raudenbush (1992). The HLM software yielded greater accuracy when compared with the results observed using SPSS 13 software for mixed linear models. Using two-level models, we first estimated the Maximum Likelihood (ML) for the relevance of the effect of each of five within-person factors in accounting for a proportion reduction in error in respondent's acceptability of arguments. Then we examined the maximum likelihood that two between group variables would moderate these effects by a reduction in intercept and slope variances. Cohen & Cohen (1983) report two measures of effect size: First, the mean differences divided by the SD, second the percent of the explained variance. These are measures not only for the significance of the effect but also the relevance of the reduction in variance. We also used Cohen's standard minimum criteria of 10% for the relevance in the reduction in variance. We will consider significance met at $p < .001$.

Two of the five within-subject factors represent respondents' perceptions and impressions. The first represents respondents' perception of each argument as illusory or realistic. The second represents respondents' experience of destructive or constructive feelings evoked by each argument. Both measures are Likert ratio scales from –3 to +3. Three within-subject factors represent qualities in the arguments. The third is a dichotomous variable, which represents whether the argument favored or opposed the Iraq war. The fourth is an ordinal scale based on stages 3, 4, 5 & 6 by Kohlberg, which represents the stage structure of the argument. Theoretically, this ordinal scale is supported by soft and hard definitions, which are part of a larger controversy concerning the interval properties in human adult moral development. We used structural definitions from theory representing abstract properties, formal properties, single system properties and multiple systems. The fifth represents the relative frequency of de-escalation details

in con arguments and of escalation details in pro arguments, which also comprises a ratio scale.

Respondents' attitude bias and respondents' capacity to rely on internal moral principles or moral judgment competence (MJC) are the two group variables serving as moderators for a reduction of variance. Respondents' attitude on the need for the Iraq war is based on a Likert scale from –3 (disagree) to +3 (Agree) with zero as an indicator of uncertainty. MJC is a percentage scale from 0 to 1, which theoretically purports to measure of the probability that respondents utilized the stage properties in the arguments over the position of the argument in determining their acceptability of the arguments.

Tests were performed for the effects at four categories. First, the random intercepts are not equal to zero for one degree of freedom (Jaccard & Turrisi, 2003; Tate, 2004). Second, the slopes for the single factors are not equal to zero for three degrees of freedom. Third, the main effects of two factor slopes are not equal to zero for seven and four degrees of freedom. Fourth, the interaction slope effects are not equal to zero for twelve, nine, and five degrees of freedom. These effects by within-subject factors in accounting for a relevant proportion reduction in error were tested for moderation in variance by respondents' attitude and/or respondents' capacity to rely on internal moral principles (Tate 2004).

3.1 MODELS FOR RANDOM INTERCEPT WITH 1 DEGREE OF FREEDOM

Equation for the proportion reduction in error by the random intercepts:

$\{Y = \beta_{00} + \beta_{10}*X + \varepsilon\}$

Equation for moderation of variance for random intercepts by a single moderator:

$\{Y = \beta_{00} + \beta_{01}*Mod(1) + \beta_{10}*X + \varepsilon\}$

Equation for moderation of variance for random intercepts by two moderators:

$\{Y = \beta_{00} + \beta_{01}*Mod(1) + \beta_{02}*Mod(2) + \beta_{10}*X + r_0 + \varepsilon\}$

Second, we tested the likelihood that the slope variance for a single within-group factor was not equal to zero and that this effect was moderated by respondents' attitude and/or moral judgment competence.

3.2. MODELS FOR SINGLE FACTOR SLOPE WITH 3 DEGREES OF FREEDOM

Equation for the proportion reduction in error by a single within-subject:

$\{Y = \beta_{00} + \beta_{10}*X + r_0 + r_1*X + \varepsilon\}$

Equation for the reduction of the factor slope variance by a single moderator:

$\{Y = \beta_{00} + \beta_{01}*Mod(1) + \beta_{10}*X + \beta_{11}*Mod(1)*X + r_0 + r_1*X + \varepsilon\}$

Equation for the reduction of the factor slope variance by two moderators:

$\{Y = \beta_{00} + \beta_{01}*Mod(1) + \beta_{02}*Mod(2) + \beta_{10}*X + \beta_{11}*Mod(1)*X + \beta_{12}*Mod(2)*X + r_0 + r_1*X + \varepsilon\}$

Third, we tested the likelihood that the main effect of two within-group factors was not equal to zero and that the variance of these effects for one or more slopes are moderated by respondents' attitude and/or moral judgment competence.

3.3. MODELS FOR MAIN EFFECTS OF 2 WITHIN-SUBJECT FACTORS WITH 7 AND 4 DEGREES OF FREEDOM

Equation for the proportion reduction in error by the main effects of two factors:

$\{Y = \beta_{00} + \beta_{10}*X(1) + \beta_{20}*X(2) + r_0 + r_1*X(1) + r_2*X(2) + \varepsilon\}$

Equation for the reduction of the slopes variance by a single moderator:

$\{Y = \beta_{00} + \beta_{01}*Mod(1) + \beta_{10}*X(1) + \beta_{11}*Mod(1)*X(1) + \beta_{20}*X(2) + \beta_{21}*Mod(1)*X(2) + r_0 + r_1*X(1) + r_2*X(2) + \varepsilon\}$

Equation for the reduction of the slopes variance by a two moderators:

$\{Y = \beta_{00} + \beta_{01}*Mod(1) + \beta_{02}*Mod(2) + \beta_{10}*X(1) + \beta_{11}*Mod(1)*X(1) + \beta_{12}*Mod(2)*X(1) + \beta_{20}*X(2) + \beta_{21}*Mod(1)*X(2) + \beta_{22}*Mod(2)*X(2) + r_0 + r_1*X(1) + r_2*X(2) + \varepsilon\}$

Fourth, we tested for the likelihood that the interactions between two within-group factors were not equal to zero and that slopes variance for this interaction might be moderated by respondents' attitude and/or moral judgment competence.

3.4. MODELS FOR INTERACTIONS OF 2 WITHIN-SUBJECT FACTORS WITH 12, 9 AND 5 DEGREES OF FREEDOM

Equation for the proportion reduction in error accounted for by the interaction between factors: $\{Y = \beta_{00} + \beta_{10}*X(1) + \beta_{20}*X(2) + \beta_{30}*X(2)*X(1) + r_0 + r_1*X(1) + r_2*X(2) + r_3*X(2)*X(1) + \varepsilon\}$

Equation for the reduction of the slope variances by a single moderator:

$$\{Y = \beta_{00} + \beta_{01}*Mod(1) + \beta_{10}*X(1) + \beta_{11}*Mod(1)*X(1) + \beta_{20}*X(2) + \beta_{21}*Mod(1)*X(2) + \beta_{30}*X(2)*X(1) + \beta_{31}*Mod(1)*X(2)*X(1) + r_0 + r_1*X(1) + r_2*X(2) + r_3*X(2)*X(1) + \varepsilon\}$$

Equation for the reduction of the slope variances by two moderators:

$$\{Y = \beta_{00} + \beta_{01}*Mod(1) + \beta_{02}*Mod(2) + \beta_{10}*X(1) + \beta_{11}*Mod(1)*X(1) + \beta_{12}*Mod(2)*X(1) + \beta_{20}*X(2) + \beta_{21}*Mod(1)*X(2) + \beta_{22}*Mod(2)*X(2) + \beta_{30}*X(2)*X(1) + \beta_{31}*Mod(1)*X(2)*X(1) + \beta_{32}*Mod(2)*X(2)*X(1) + r_0 + r_1*X(1) + r_2*X(2) + r_3*X(2)*X(1) + \varepsilon\}$$

CHAPTER 4

RESULTS: RANDOM EFFECTS, SINGLE SLOPE, AND INTERACTIONS

4.1. THE RESULTS FOCUS ON THE FOLLOWING QUESTIONS:

1. Does a random effects model explain the proportion reduction in error for each of the five within-subject factors and do respondents' moral judgment competence and/or attitude moderate a reduction in intercept variance for acceptability of arguments?
   - The HLM equation model for the relevance of the factor corresponding with this question is, $\{Y = \beta_{00} + \beta_{10}*X + \varepsilon\}$
   - The equation model for the *m*oderating effect of MJC or attitude is, $\{Y = \beta_{00} + \beta_{01}*Mod(1) + \beta_{10}*X + \varepsilon\}$,
   - and $\{Y = \beta_{00} + \beta_{01}*Mod(1) + \beta_{02}*Mod(2) + \beta_{10}*X + r_0 + \varepsilon\}$ for their combined effect.

2. Does a single within-subject factor account for any portion of the proportion reduction in error and do moral judgment competence and/or attitude explain a reduction in the slope variance for the single factor in moderating respondents' acceptance of arguments?
   - The within-subject variance prior to moderation is represented by the equation, $\{Y = \beta_{00} + \beta_{10}*X + r_0 + r_1*X + \varepsilon\}$
   - The moderated effects are represented by: $\{Y = \beta_{00} + \beta_{01}*Mod(1) + \beta_{10}*X + \beta_{11}*Mod(1)*X + r_0 + r_1*X + \varepsilon\}$ for a single moderator
   - and $\{Y = \beta_{00} + \beta_{01}*Mod(1) + \beta_{02}*Mod(2) + \beta_{10}*X + \beta_{11}*Mod(1)*X + \beta_{12}*Mod(2)*X + r_0 + r_1*X + \varepsilon\}$ for their combined moderation.

3. Do the main effects of beneficent or restrictive justice considerations, which grossly represent the primary and most obvious argument quality clearly specified in the research design, combine with a second within-subject factor in a proportion reduction in error and do MJC and/or attitude moderate a further reduction in intercept and/or slope variance?

- The within-subject variance is based on the equation, {$Y = \beta_{00} + \beta_{10}*X(1) + \beta 20*X(2) + r_0 + r_1*X(1) + r_2*X(2) + \varepsilon$}
- The single variable moderator by equation, {$Y = \beta_{00} + \beta_{01}*Mod(1) + \beta_{10}*X + \beta_{11}*Mod(1)*X(1) + \beta_{20}*X(2) + \beta_{21}*Mod(1)*X(2) + r_0 + r_1*X(1) + r_2*X(2) + \varepsilon$}
- The two moderator model by, {$Y = \beta_{00} + \beta_{01}*Mod(1) + \beta_{02}*Mod(2) + \beta_{10}*X + \beta_{11}*Mod(1)*X(1) + \beta_{12}*Mod(2)*X(1) + \beta_{20}*X(2) + \beta_{21}*Mod(1)*X(2) + \beta_{22}*Mod(2)*X(2) + r_0 + r_1*X(1) + r_{2*}X(2) + \varepsilon$}

4. Do the interactions of beneficent or restrictive justice considerations and a second within-subject factor account for the proportion reduction of error and are there reductions in intercept and slope variances moderated by MJC and/or attitude?
   - The within-subject variance is based on the equation. {$Y = \beta_{00} + \beta_{10}*X(1) + \beta_{20}*X(2) + + \beta_{30}*X(2)*X(1) + r_0 + r_1*X(1) + r_2*X(2) + r_3*X(2)*X(1) + \varepsilon$}
   - The single variable moderator by, {$Y = \beta_{00} + \beta_{01}*Mod(1) + \beta_{10}*X + \beta_{11}*Mod(1)*X(1) + \beta_{20}*X(2) + \beta_{21}*Mod(1)*X(2) + \beta_{30}*X(2)*X(1)+ \beta_{31}*Mod(1)*X(2)*X(1) + r_0 + r_1*X(1) + r_2*X(2) + r_3*X(2)*X(1) + \varepsilon$}
   - The combined moderating model by, {$Y = \beta_{00} + \beta_{01}*Mod(1) + \beta_{02}*Mod(2) + \beta_{10}*X + \beta_{11}*Mod(1)*X(1) + \beta_{12}*Mod(2)*X(1) + \beta_{20}*X(2) + \beta_{21}*Mod(1)*X(2) + \beta_{22}*Mod(2)*X(2) + \beta_{30}*X(2)*X(1) + \beta_{31}*Mod(1)*X(2)*X(1) + \beta_{32}*Mod(2)*X(2)*X(1) + r_0 + r_1*X(1) + r_2*X(2) + r_3*X(2)*X(1) + \varepsilon$}

5. Do the two between subject moderators, the capacity to rely on internal moral principles or attitude bias, moderate the intercept and slope variances in the interactions of beneficence versus restrictive considerations and perceptions of argument as realistic, destructive or constructive feeling evoked by the argument, the relative frequency of escalation & de-escalation details and the stage of the argument? (equations in 4b and 4c above)

4.2. RANDOM EFFECTS

First, we wanted to know whether a random effects model would explain the mean intercept variances for each of the five within-subject factors in accounting for

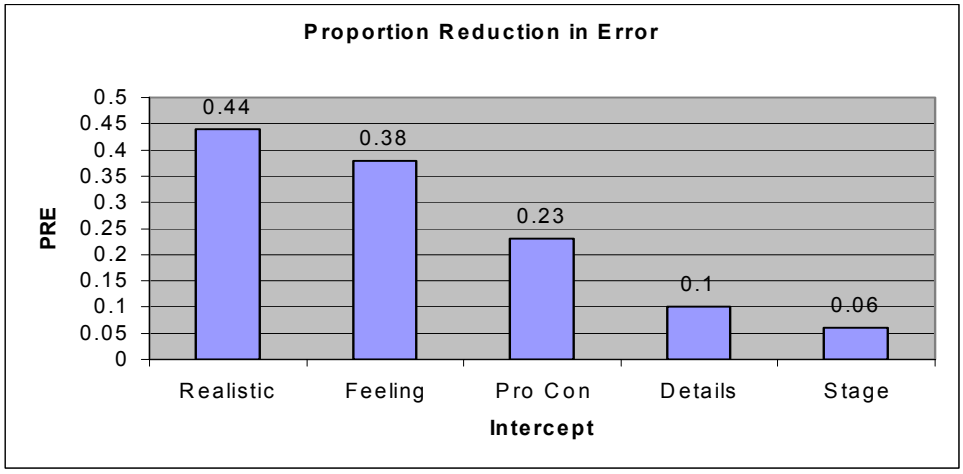
respondents' acceptability of arguments. Later we examine whether moral judgment competence and/or attitude serve as moderators for the random intercept variances.

4.2.1 Factor effects

Figure 1 represents the results of the equation models for the random intercept variances.

- For illusory or realistic arguments {Y = β_{00} + β_{10}*Realistic* + ε}
- For destructive or constructive feelings evoked {Y = β_{00} + β_{10}*Feeling* + ε}
- For beneficence or restrictive justice {Y = β_{00} + β_{10}*Pro-con* + ε}
- For escalation and de-escalation details {Y = β_{00} + β_{10}*Details* + ε}
- For the stage of the arguments structure {Y = β_{00} + β_{10}*Stage* + ε}

Figure 1 portrays the proportion reduction in error (PRE) for each of the within-subject factors.



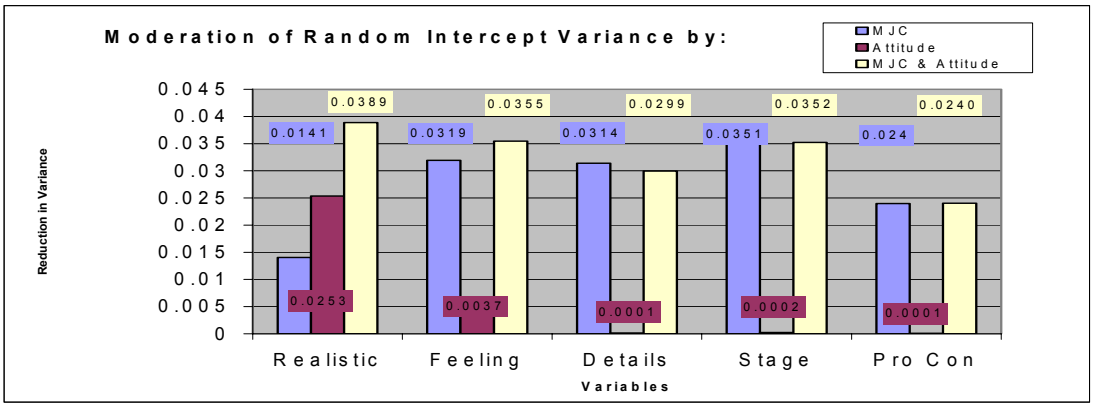
Illusory or realistic {Y = β_{00} + β_{10}*Realistic + ε} accounted for (44% of Y) for PRE. Destructive or Constructive feelings {Y = β_{00} + β_{10}*Feeling + ε} accounted for (38% of Y). Beneficence or Restrictive considerations {Y = β_{00} + β_{10}*Pro-con + ε} accounted for (23% of Y). De-escalation or Escalation details {Y = β_{00} + β_{10}*Details + ε} accounted for (10% of Y). Stage {Y = β_{00} + β_{10}*Stage + ε} accounted for (6% of Y) for the proportion reduction in error. All the within-subject variables were significant in accounting for a proportion reduction in error for respondents' acceptability of arguments, but the effect of stage was below Cohen's 10% criteria and thus not relevant.

Table 3 Random Intercept

Factor	PRE	Intercept	Likelihood ratio	df	Sig.
Illusory or Realistic	0.44				
No Moderator			2751.473	1	0.000000
➢ MJC		.01	2749.296249	1	0.000000
➢ Attitude		.03	2754.772665	1	0.000000
➢ MJC &Attitude		.04	2752.560391	1	0.000000
D or C Feeling	0.38				
No Moderator			2220.211	1	0.000000
➢ MJC		.03	2221.850477	1	0.000000
➢ Attitude		.004	2220.861744	1	0.000000
➢ MJC &Attitude		.04	2222.472661	1	0.000000
D or E Details	0.10				
No Moderator			466.4973	1	0.000000
➢ MJC		.04	466.497276	1	0.000000
➢ Attitude		.0002	466.497276	1	0.000000
➢ MJC &Attitude		.04	466.302828	1	0.000000
Stage	0.06				
No Moderator			264.35	1	0.000000
➢ MJC		.03	264.349951	1	0.000000
➢ Attitude		.0001	264.349951	1	0.000000
➢ MJC &Attitude		.03	264.349951	1	0.000000
Pro Con	0.23				
No Moderator			1122.007	1	0.000000
➢ MJC		.024	1122.006949	1	0.000000
➢ Attitude		.0001	1122.006949	1	0.000000
➢ MJC &Attitude		.024	1122.006948	1	0.000000

4.2.2. Moderation Effect

Figure 2 portrays the moderated effect of MJC and attitude in reducing the random intercept variances



Moderation of the intercept variances by Moral Judgment Competence and attitude were significant, but not relevant. There was further reduction of intercept variances for any of the within-subject effects. The results of the equation {$Y = \beta_{00} + \beta_{01}*Mod(1) + \beta_{10}*X + \varepsilon$}, were not higher than (4%), which does no meet Cohen's 10% criteria. In all other cases, the reduction in variance by MJC was identical with the combined reduction by MJC and

attitude, but higher than when moderated by attitude alone. The reduction in variance moderated by attitude was higher than when moderated by MJC only for perceptions of arguments as illusory or realistic.

We are able to account for a reasonable proportion in error variance by each of the five within-subject factors. The moderation effect for the intercept variance by MJC and/or attitude bias is significant, but fails to meet Cohen's 10% criteria for relevance. Finding lack of relevance for a random effects model in moderating the intercept variance we wanted to see whether the variance for a single within-subject factor slope could be moderated by MJC and/or attitude bias. This lead us right into our second question.

Does the slope for a single within-subject factor account for a proportion reduction in error for respondents' acceptance of arguments and do moral judgment competence and/or attitude moderate reduction in its variance? We examined whether the slope variance was relevant and significant in accounting for the within-persons variance and whether attitude or moral judgment competence moderated further reduction in variance.

We examined the effect of respondent characteristics: perception of argument as illusory or realistic {$Y = \beta_{00} + \beta_{01}*Realistic + \beta_{10}*Realistic + \varepsilon$} and the experience of destructive or constructive feelings evoked {$Y = \beta_{00} + \beta_{01}*Feeling + \beta_{10}*Feeling + \varepsilon$}. The argument qualities included: Beneficent considerations in con and restrictive justice considerations in pro arguments {$Y = \beta_{00} + \beta_{01}*Pro\text{-}con + \beta_{10}*Pro\text{-}con + \varepsilon$}, frequency of de-escalation details in con arguments and escalation details in pro arguments {$Y = \beta_{00} + \beta_{01}*Details + \beta_{10}*Details + \varepsilon$}, and the stage of the argument {$Y = \beta_{00} + \beta_{01}*Stage + \beta_{10}*Stage + \varepsilon$} The results are portrayed in figure 3.

4.3. SINGLE SLOPE

4.3.1. Factor Slope Effect

Figure 3 portrays the proportion reduction in error by each of the five within-subject factors single slope

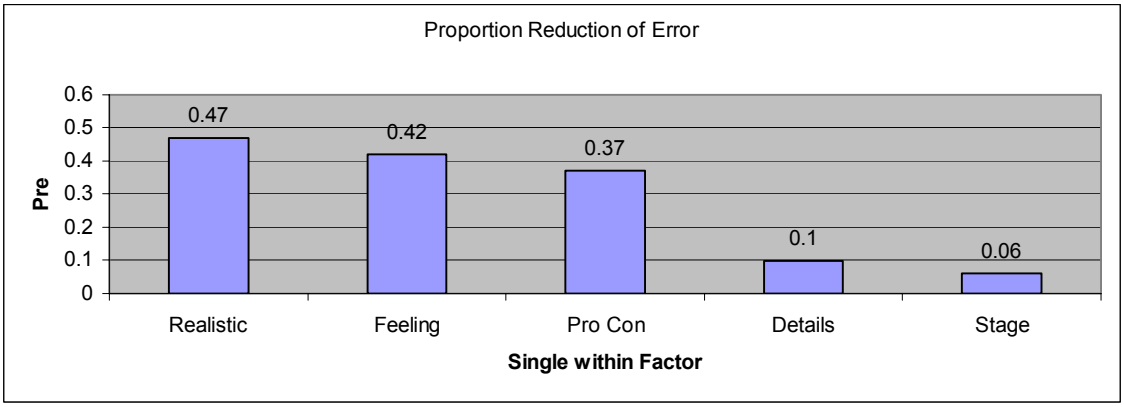


Table 4: The relevance and significance of each of five within-subject factors

Factor	PRE	Intercept	*Slope*	Likelihood ratio	df	Sig.
Illusory or Realistic	.47					
No Moderator				2824.592	3	0.000000
➢ MJC		.00	*.07*	2830.78497	4	0.000000
➢ Attitude		.04	*.00*	2828.562533	4	0.000000
➢ MJC &Attitude		.04	*.07*	2834.823883	5	0.000000
D or C Feeling	.42					
No Moderator				2294.246	3	0.000000
➢ MJC		.00	*.09*	2302.058494	4	0.000000
➢ Attitude		.002	*.004*	2294.787188	4	0.000000
➢ MJC &Attitude		.00	***.10 **	2302.659568	5	0.000000
Stage	06					
No Moderator				466.9596	3	0.000000
➢ MJC		.00	*.00*	329.99165	4	0.000000
➢ Attitude	.	.00	***.11 **	274.022416	4	0.000000
➢ MJC &Attitude		.00	*.00*	340.39428	5	0.000000
D or E Details	.10					
No Moderator				264.3258	3	0.000000
➢ MJC		.03	***.50 **	472.705094	4	0.000000
➢ Attitude		.00	***.64***	498.74952	2	0.000000
➢ MJC &Attitude		.02	***.86 **	504.294447	5	0.000000
Pro Con	.37					
No Moderator				1542.755	3	0.000000
➢ MJC		.02	***.20 **	1607.765346	4	0.000000
➢ Attitude		.00	***.11 **	1583.821275	4	0.000000
➢ MJC &Attitude		.02	***.30 **	1645.085257	5	0.000000

In figure 3 and table 4, respondents' impressions of arguments as seeming illusory versus realistic {$Y = \beta_{00} + \beta_{01}$*Realistic* $+ \beta_{10}$*Realistic* $+ \varepsilon$} accounted for (47%) of the proportion reduction in error. This effect was significantly moderated by MJC (.07), attitude bias (.04) and their combined effect (.07), but this moderation is not relevant as it is below (.10)

The feeling evoked by argument as destructive versus constructive {$Y = \beta_{00} + \beta_{01}*Feeling + \beta_{10}*Feeling + \varepsilon$} accounted for (42%). This effect was significantly moderated by both MJC (.09), attitude bias (.06) and their combined effect (.15), moderation is relevant for their combined effect as it is above (.10).

For arguments' qualities, beneficence or restrictive justice considerations {$Y = \beta_{00} + \beta_{01}*Pro\text{-}con + \beta_{10}*Pro\text{-}con + \varepsilon$} accounted for (37%) of the PRE. This effect was significantly moderated by MJC (.20), attitude bias (.11) and their combined effect (.30), all moderations are relevant as they are above (.10).

Details {$Y = \beta_{00} + \beta_{01}*Details + \beta_{10}*Details + \varepsilon$} accounted for (10%) of PRE. This effect was significantly moderated by MJC (.50), attitude bias (.64) and their combined effect (.86), all moderations are relevant as they are above (.10).

Stage {$Y = \beta_{00} + \beta_{01}*Stage + \beta_{10}*Stage + \varepsilon$} accounted for (6%). This effect was significantly moderated by MJC (.00), attitude bias (.11) and their combined effect (.00), all moderations are relevant as they are above (.10).

The proportion reduction in error is slightly improved by the single slope against the random intercept for realistic, feeling and beneficence, but not for details and stage. All models are significant $p < 0.0001$ and relevant by Cohen's 10% criteria except stage, which is not relevant.

4.3.2. Moderation Effect

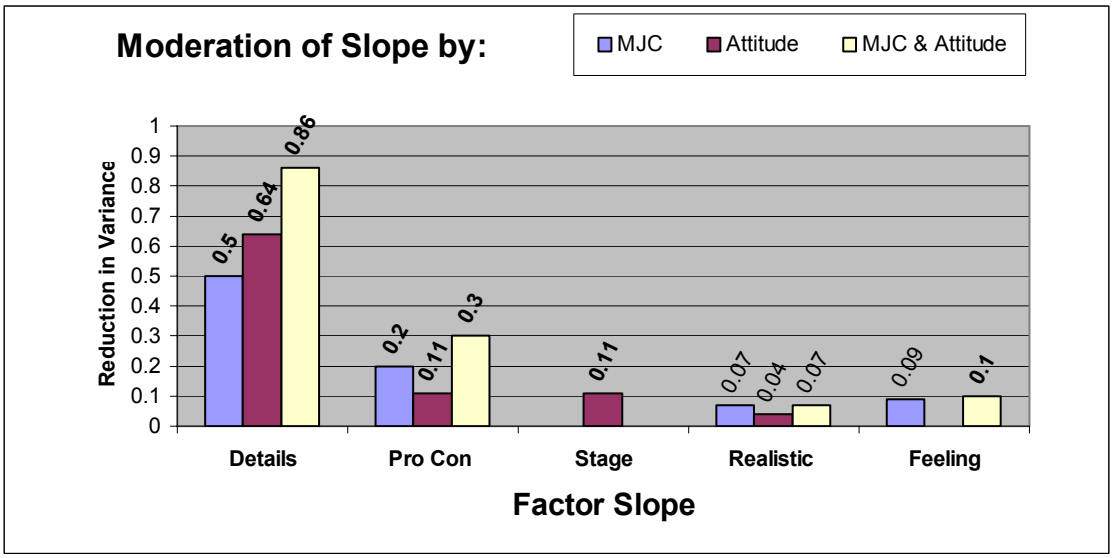
For reduction in within-subject factor slope variance by a single moderator:

{$Y = \beta_{00} + \beta_{01}*Mod(1) + \beta_{10}*X + \beta_{11}*Mod(1)*X + r_0 + r_1*X + \varepsilon$}

For reduction in within-subject factor slope variance by two moderators:

{$Y = \beta_{00} + \beta_{01}*Mod(1) + \beta_{02}*Mod(2) + \beta_{10}*X + \beta_{11}*Mod(1)*X + \beta_{12}*Mod(2)*X + r_0 + r_1*X + \varepsilon$}

Figure 4, portrays the moderation of the variance of these slopes by MJC and/or attitude, using the following equations:



The slope variances for the effect of de-escalation and escalation details were moderated by moral judgment competence {Y = β_{00} + β_{01}*MJC + β_{10}*Details + β_{11}*MJC*Details + r_0 + r_1*Details + ε} (50% of Y), by attitude {Y = β_{00} + β_{01}*Attitude + β_{10}*Details + β_{11}*Attitude*Details + r_0 + r_1*Details + ε} (64% of Y), and by their combined effect {Y = β_{00} + β_{01}*MJC + β_{02}*Attitude + β_{10}*Details + β_{11}*MJC*Details + β_{12}*Attitude*Details + r_0 + r_1*Details + ε} by (86% of Y).

The effect of the slope variance for beneficence and restrictive justice considerations on respondent's acceptability is moderated by MJC by 20% {Y = β_{00} + β_{01}*MJC + β_{10}*Pro-con + β_{11}*MJC*Pro-con + r_0 + r_1*Pro-con + ε}, by Attitude by 11% {Y = β_{00} + β_{01}*Attitude + β_{10}*Pro-con + β_{11}*Attitude*Pro-con + r_0 + r_1*Pro-con + ε}, and by their combined effect by 30 % {Y = β_{00} + β_{01}*MJC + β_{02}*Attitude + β_{10}*Pro-con + β_{11}*MJC*Pro-con + β_{12}*Attitude*Pro-con + r_0 + r_1*Pro-con + ε} in reduction of variance. For stage the effect of slope variance was moderated only by attitude by 11% {Y = β_{00} + β_{01}*Attitude + β_{10}*Stage + β_{11}*Attitude*Stage + r_0 + r_1*Stage + ε}, while the effect of MJC and their combined effect were below Cohen's 10% criteria for relevance. The reduction in the slope variance for realistic and feeling are all below 10%, except for the combined moderation for Feeling slope {Y = β_{00} + β_{01}*MJC + β_{02}*Attitude + β_{10}*Feeling + β_{11}*MJC*Feeling + β_{12}*Attitude*Feeling + r_0 + r_1*Feeling + ε} by 10%.

Do the main effects of beneficent or restrictive justice considerations, which grossly represent the primary and most obvious argument quality clearly identified in the research design, combine with each of the other four within-subject factors in accounting for the variances in intercept and slopes and for moderation by MJC and/or attitude?

Equations for main effects accounting for proportion reduction in error in respondents' acceptability: {$Y = \beta_{00} + \beta_{10}*X(1) + \beta_{20}*X(2) + r_0 + r_1*X(1) + r_2*X(2) + \varepsilon$}

- Realistic arguments {$Y = \beta_{00} + \beta_{10}*Pro\text{-}con + \beta_{20}*Realistic + r_0 + r_1*Pro\text{-}con + r_2*Realistic + \varepsilon$}
- Constructive/destructive feeling {$Y = \beta_{00} + \beta_{10}*Pro\text{-}con + \beta_{20}*Feeling + r_0 + r_1*Pro\text{-}con + r_2*Feeling + \varepsilon$}
- Frequency details {$Y = \beta_{00} + \beta_{10}*Pro\text{-}con + \beta_{20}*Stage + r_0 + r_1*Pro\text{-}con + r_2*Stage + \varepsilon$}
- Stage of argument {$Y = \beta_{00} + \beta_{10}*Pro\text{-}con + \beta_{20}*Details + r_0 + r_1*Pro\text{-}con + r_2*Details + \varepsilon$}

4.4. Main Effects

4.4.1. Factor Effects

Figure 5: The relevance of the interactions between beneficence and four other within-subject factors

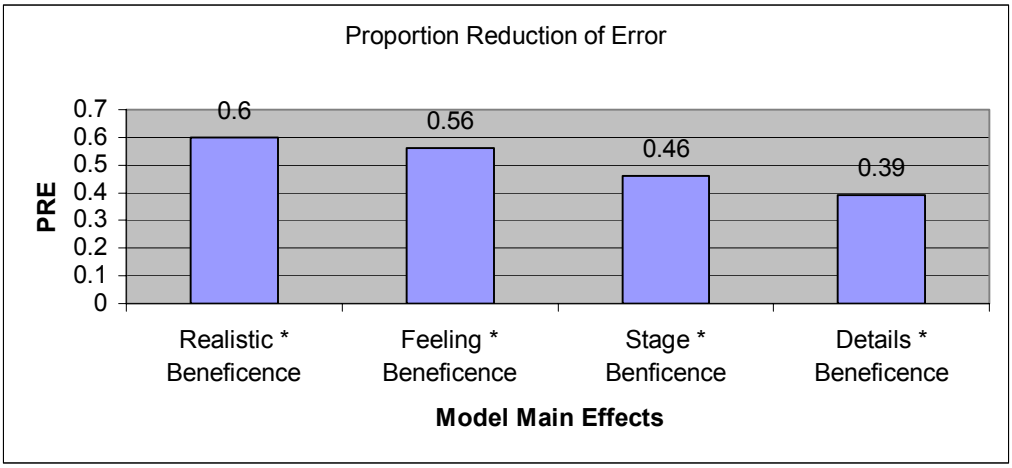


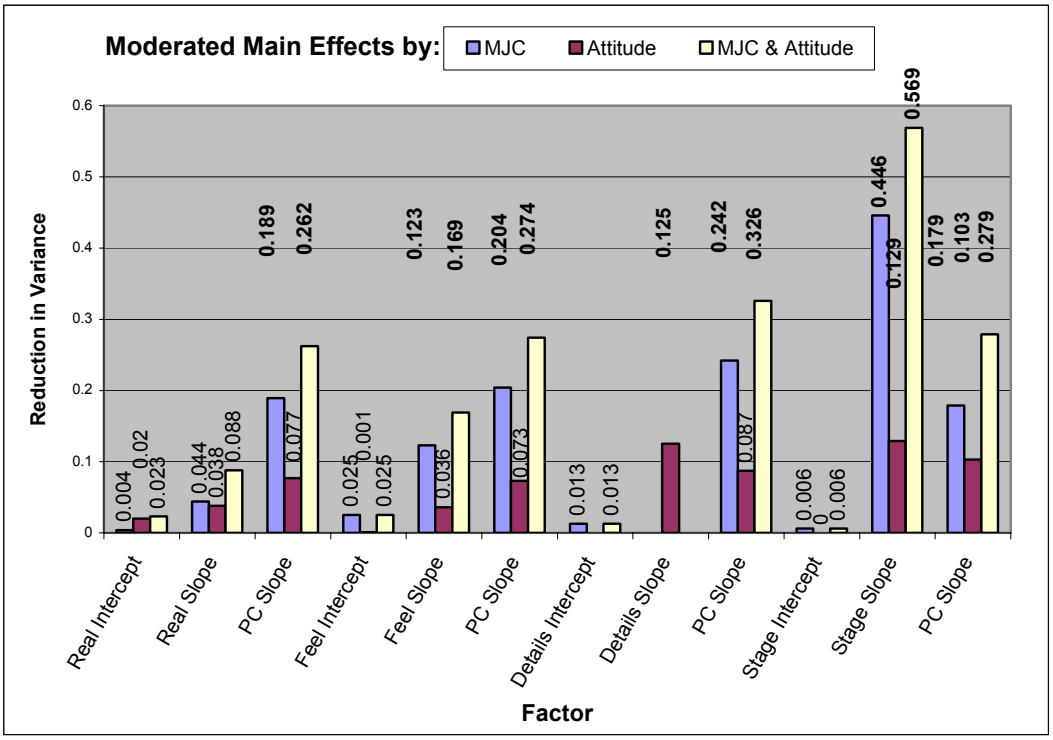
Table 5: Main Effects

Factor	PRE	Intercept	Slope	***PC Slope***	Likelihood Ratio	df	Sig.
Illusory or Realistic	.60						
No Moderator					3630.032	7	0.000000
					805.4397	4	0.000000
➢ MJC		.004		***.19****	3683.692857	9	0.000000
			.04		852.907887	5	0.000000
➢ Attitude		.02		*.08*	3647.724215	9	0.000000
			.04		819.161682	5	0.000000
➢ MJC &Attitude		.02		***.26 ****	3702.93786	11	0.000000
			.09		868.113977	6	0.000000
D or C Feeling	.56				3073.306	7	0.000000
No Moderator					779.0597	4	0.000000
➢ MJC		.03		***.20****	3141.534638	9	0.000000
			.12*		839.476144	5	0.000000
➢ Attitude		.001		*.07*	3092.57798	9	0.000000
			.04		797.790792	5	0.000000
➢ MJC &Attitude		.03		***.27 ****	3163.167698	11	0.000000
			.17*		860.50813	6	0.000000
Stage	.46						
No Moderator					2005.64	7	0.000000
					1741.314	4	0.000000
➢ MJC		.01		***.18****	2204.918746	9	0.000000
			.45*		1874.927096	5	0.000000
➢ Attitude		.00		***.10****	2047.502562	9	0.000000
			.13*		1773.480146	5	0.000000
➢ MJC &Attitude		.01		***.28****	2246.759075	11	0.000000
			.57*		1906.364795	6	0.000000
D or E Details	.39						
No Moderator					1650.041	7	0.000000
					1183.081	4	0.000000
➢ MJC		.01		***.24****	1726.04956	9	0.000000
			.00		1253.344466	5	0.000000
➢ Attitude		.01		*.09*	1687.400077	9	0.000000
			.13 *		1188.650557	5	0.000000
➢ MJC &Attitude		.01		***.33 ****	1766.185441	11	0.000000
			.00		1261.890994	6	0.000000

4.4.2. Moderation Effect

Figure 6: The reduction in variance moderated for the main effects moderated by MJC and/or attitude is represented by the equation models: For a single moderator, {Y = β_{00} + β_{01}*Mod(1) + β_{10}*X(1) + β_{11}*Mod(1)*X(1) + β_{20}*X(2) + β_{21}*Mod(1)*X(2) + r_0 + r_1*X(1)+ r_2*X(2) + ε}

And for the combined moderators, {Y = β_{00} + β_{01}*Mod(1) + β_{02}*Mod(2) + β_{10}*X(1) β_{11}*Mod(1)*X(1) + β_{12}*Mod(2)*X(1) + β_{20}*X(2) + β_{21}*Mod(1)*X(2) + β_{22}*Mod(2)*X(2) + r_0 + r_1*X(1) + r_2*X(2) + ε}



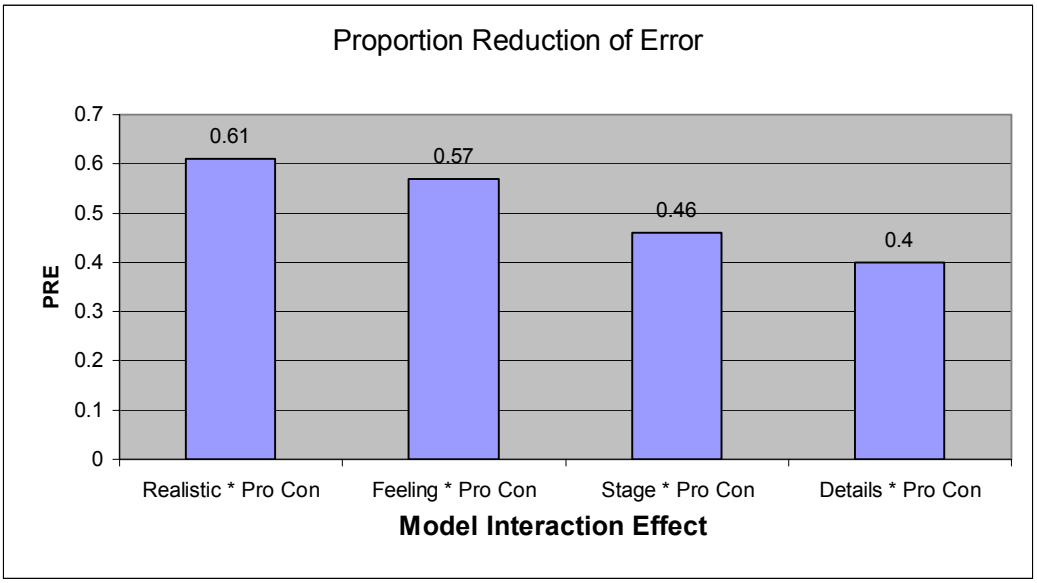
The following effects conform to Cohen's 10% criteria for relevance. For realistic versus illusory perceptions the Pro Con slope variance is moderated by MJC {Y = β_{00} + β_{01}*MJC + β_{10}*Pro-con + β_{11}*MJC*Pro-con + β_{20}*Realistic + β_{21}*MJC*Realistic + r_0 + r_1*Pro-con + r_2*Realistic + ε} by (19%) and by the combined effect of MJC and attitude {Y = β_{00} + β_{01}*Attitude + β_{02}*MJC + β_{10}**Pro-con β_{11}**Attitude*Pro-con + β_{12}*MJC*Pro-con + β_{20}*Realistic + β_{21}*Attitude*Realistic + β_{22}*MJC*Realistic + r_0 + r_1*Pro-con + r_2*Realistic + ε} by (26%), which is the sum of the reduction in variance by the single moderators. For destructive versus constructive feelings the variance for the feeling slope is moderated by MJC {Y = β_{00} + β_{01}*MJC + β_{10}*Pro-con + β_{11}*MJC*Pro-con + β_{20}*Feeling + β_{21}*MJC*Feeling + r_0 + r_1*Pro-con + r_2*Feeling + ε} by (12%), while the Pro Con slope is reduced by (20%) by MJC. The combined effect of MJC and attitude {Y = β_{00} + β_{01}*Attitude + β_{02}*MJC + β_{10}**Pro-con β_{11}**Attitude*Pro-con + β_{12}*MJC*Pro-con + β_{20}*Feeling +

β_{21}*Attitude*Feeling + β_{22}*MJC*Feeling + r_0 + r_1*Pro-con + r_2*Feeling + ε} reduce the Feeling slope variance by (17%) and the Pro Con slope variance by (27%). The reduction in the details slope variance for escalation and de-escalation details is moderated by attitude {Y = β_{00} + β_{01}*Attitude + β_{10}*Pro-con + β_{11}*Attitude*Pro-con + β_{20}*Details + β_{21}*Attitude*Details + r_0 + r_1*Pro-con + r_2*Details + ε} by (13%). The Pro Con slope variance is reduced by MJC {Y = β_{00} + β_{01}*MJC + β_{10}*Pro-con + β_{11}*MJC*Pro-con + β_{20}*Details + β_{21}*MJC*Details + r_0 + r_1*Pro-con + r_2*Details + ε} by (24%) and by combined moderators {Y = β_{00} + β_{01}*Attitude + β_{02}*MJC + β_{10}**Pro-con β_{11}**Attitude*Pro-con + β_{12}*MJC*Pro-con + β_{20}*Details + β_{21}*Attitude*Details + β_{22}*MJC*Details + r_0 + r_1*Pro-con + r_2*Details + ε} by (Y+33%). The variance in the Stage slope is moderated by MJC {Y = β_{00} + β_{01}*MJC + β_{10}*Pro-con + β_{11}*MJC*Pro-con + β_{20}*Stage + β_{21}*MJC*Stage + r_0 + r_1*Pro-con + r_2*Stage + ε} by (45%) and the Pro Con slope variance is reduced by (18%). For attitude {Y = β_{00} + β_{01}*Attitude + β_{10}*Pro-con + β_{11}*Attitude*Pro-con + β_{20}*Stage + β_{21}*Attitude*Stage + r_0 + r_1*Pro-con + r_2*Stage + ε} the stage slope variance is reduced by 13% and the Pro Con slope variance is reduced by (10%). For both moderators {Y = β_{00} + β_{01}*Attitude + β_{02}*MJC + β_{10}**Pro-con β_{11}**Attitude*Pro-con + β_{12}*MJC*Pro-con + β_{20}*Stage + β_{21}*Attitude*Stage + β_{22}*MJC*Stage + r_0 + r_1*Pro-con + r_2*Stage + ε} the Stage slope is reduced by (57%) and the Pro Con slope variance is reduced by (28%). All the effects including those that failed Cohen's 10% criteria were significant with a Chi Square value at p. < 0.000.

4.5. INTERACTION EFFECTS

4.5.1. Factor effects

Figure 7: Do the interactions of beneficent or restrictive justice considerations and a second within-subject factor account for the proportion reduction of error and are there reductions in intercept and slope variances moderated by MJC and/or attitude?



The within-subject reduction in proportion of error is based on the equation, {$Y = \beta_{00} + \beta_{10}*X(1) + \beta_{20}*X(2) + \beta_{30}*X(2)*X(1) + r_0 + r_1*X(1) + r_2*X(2) + r_3*X(2)*X(1) + \varepsilon$}, representing effect of:

Respondents' perception of arguments as Illusory or realistic, {$Y = \beta_{00} + \beta_{10}*Pro\text{-}con + \beta_{20}*Realistic + \beta_{30}*Realistic*Pro\text{-}con + r_0 + r_1*Pro\text{-}con + r_2*Realistic + r_3*Realistic*Pro\text{-}con + \varepsilon$}

Destructive or constructive feelings evoked by the argument, {$Y = \beta_{00} + \beta_{10}*Pro\text{-}con + \beta_{20}*Feeling + \beta_{30}*Feeling*Pro\text{-}con + r_0 + r_1*Pro\text{-}con + r_2*Feeling + r_3*Feeling*Pro\text{-}con + \varepsilon$}

The frequency of escalation details in pro-arguments & de-escalation details in con-arguments, {$Y = \beta_{00} + \beta_{10}*Pro\text{-}con + \beta_{20}*Details + \beta_{30}*Details*Pro\text{-}con + r_0 + r_1*Pro\text{-}con + r_2*Details + r_3*Details*Pro\text{-}con + \varepsilon$}

The hierarchical Stages representing the structure of the arguments, {$Y = \beta_{00} + \beta_{10}*Pro\text{-}con + \beta_{20}*Stage + \beta_{30}*Stage*Pro\text{-}con + r_0 + r_1*Pro\text{-}con + r_2*Stage + r_3*Stage*Pro\text{-}con + \varepsilon$}

Table 6: The relevance and significance of interactions for beneficence with other within-subject factors

Factor	PRE	Intercept	Slope	PC Slope	**Interaction Slope**	Likelihood Ratio	df	Sig.
Real	.61							
No Moderator		.				3722.193	12	0.000000
		.				897.6002	9	0.000000
						92.16052	5	0.000000
➢ MJC		.01			*.02*	3777.219662	15	0.000000
			.04			946.434692	11	0.000000
				.19*		93.526805	6	0.000000
➢ Attitude		.04			*.04*	3742.3566	15	0.000000
			.04			913.794067	11	0.000000
				.08		94.632385	6	0.000000
➢ MJC & Attitude		.04			*.06*	3798.507303	18	0.000000
			.08			963.68342	13	0.000000
				.26*		95.569443	7	0.000000
Feel	.57							
No Moderator						3148.572	12	0.000000
						854.3262	9	0.000000
						75.26645	5	0.000000
➢ MJC		.03			,06	3217.671413	15	0.000000
			.09			915.612919	11	0.000000
				.21*		76.136775	6	0.000000
➢ Attitude		.00			.00	3169.126869	15	0.000000
			.06			874.339681	11	0.000000
				.08		76.548889	6	0.000000
➢ MJC & Attitude		.03			.04	3239.803972	18	0.000000
			.15*			937.144404	13	0.000000
				.29*		76.636274	7	0.000000
Stage	.46							
No Moderator						20335.84	12	0.000000
						1753.252	9	0.000000
						11.93809	5	0.035646
➢ MJC		.01			.00	2216.985789	15	0.000000
			.45*			1886.994139	11	0.000000
				.18*		12.067043	6	0.060490
➢ Attitude		.00			.07	2061.222215	15	0.000000
			.13*			1787.199799	11	0.000000
				.10*		13.719653	6	0.032929
➢ MJC & Attitude		.01			.00	2260.688991	18	0.000000
			.57*			1920.294711	13	0.000000
				.28*		13.929916	7	0.052442
Details	.40							
No Moderator						1742.634	12	0.000000
						1275.674	9	0.000000
						92.59254	5	0.000000
➢ MJC		.07			.00	1853.63068	15	0.000000
			.00			1380.925586	11	0.000000
				.07		127.58112	6	0.000000
➢ Attitude		.01			***.22 ****	1780.993452	15	0.000000
			.14 *			1282.243932	11	0.000000
				.11 *		93.593375	6	0.000000
➢ MJC & Attitude		.08		.	.00	1893.930953	18	0.000000
			.00			1389.636506	13	0.000000
				18 *		127.745512	7	0.000000

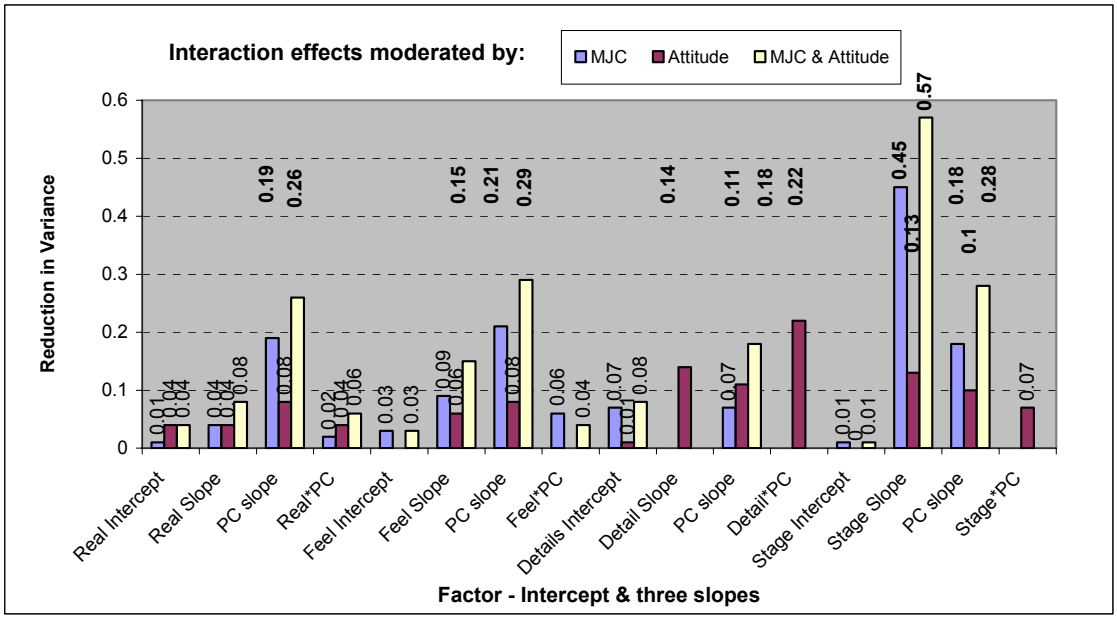
Figure 7 & Table 6 compare the interaction effect of beneficence considerations with each of realistic, feelings, details and stage. While all interactions account for more than 10% of the PRE, there is very little improvement over the results for the main effects (figure 5 and table 2). Illusory versus realistic perceptions {$Y = \beta_{00} + \beta_{10}$*Pro-con* $+ \beta_{20}$*Realistic* $+\beta_{30}$*Realistic*Pro-con* $+ r_0 +$

r_1*Pro-con + r_2*Realistic +r_3*Realistic*Pro-con + ε} account for (61%), destructive/constructive feelings {Y = β_{00} + β_{10}*Pro-con + β_{20}*Feeling + β_{30}*Feeling*Pro-con + r_0 + r_1*Pro-con + r_2*Feeling + r_3*Feeling*Pro-con + ε} account for (57%), the relative frequency of details {Y = β_{00} + β_{10}*Pro-con + β_{20}*Details + β_{30}*Details*Pro-con + r_0 + r_1*Pro-con + r_2*Details + r_3*Details*Pro-con + ε} accounts for (40%) and stage accounts {Y = β_{00} + β_{10}*Pro-con + β_{20}*Stage + β_{30}*Stage*Pro-con + r_0 + r_1*Pro-con + r_2*Stage + r_3*Stage*Pro-con + ε} for (46%).

4.5.2. Moderated Effect

The single variable moderator by, {Y = β_{00} + β_{01}*Mod(1) + β_{10}*X(1) + β_{11}*Mod(1)*X(1) + β_{20}*X(2) + β_{21}*Mod(1)*X(2) + β_{30}*X(2)*X(1)+ β_{31}*Mod(1)*X(2)*X(1) + r_0 + r_1*X(1) + r_2*X(2) + r_3*X(2)*X(1) + ε}, and their combined moderation by, {Y = β_{00} + β_{01}*Mod(1) + β_{02}*Mod(2) + β_{10}*X(1) + β_{11}*Mod(1)*X(1) + β_{12}*Mod(2)*X(1) + β_{20}*X(2) + β_{21}*Mod(1)*X(2) + β_{22}*Mod(2)*X(2) + β_{30}*X(2)*X(1) + β_{31}*Mod(1)*X(2)*X(1) + β_{32}*Mod(2)*X(2)*X(1) + r_0 + r_1*X(1) + r_2*X(2) + r_3*X(2)*X(1) + ε}

Figure 8: The moderation in variance for the interactions of beneficence and restrictive justice by moral judgment competence and attitude are represented by the following equation models.



We will discuss only the effects found that conform to Cohen's 10% criteria. The relevance of realistic versus illusory perceptions is moderated by means of the Pro Con slope by MJC {Y = β_{00} + β_{01}*MJC + β_{10}*Pro-con + β_{11}*MJC*Pro-con + β_{20}*Realistic + β_{21}*MJC*Realistic + β_{30}*Realistic*Pro-con + β_{31}*MJC*Realistic*Pro-con + r_0 + r_1*Pro-con + r_2*Realistic +

r_3*Realistic*Pro-con + ε} by (19%) and the combined effect of MJC and attitude {Y = β_{00} + β_{01}*Attitude + β_{02}*MJC + β_{10}*Pro-con + β_{11}*Attitude*Pro-con + β_{12}*MJC*Pro-con + β_{20}*Realistic + β_{21}*Attitude*Realistic + β_{22}*MJC*Realistic + β_{30}*Realistic*Pro-con + β_{31}*Attitude*Realistic*Pro-con + β_{32}*MJC*Realistic*Pro-con + r_0 + r_1*Pro-con + r_2*Realistic + r_3*Realistic*Pro-con + ε} by (26%), which represents the sum of the individual reduction in variance.

The Feeling slope variance for constructive versus destructive feelings was moderated by the combined effect of MJC and attitude {Y = β_{00} + β_{01}*Attitude + β_{02}*MJC + β_{10}*Pro-con + β_{11}*Attitude*Pro-con +β_{12}*MJC*Pro-con + β_{20}*Feeling + β_{21}*Attitude*Feeling + β_{22}*MJC*Feeling + β_{30}*Feeling*Pro-con + β_{31}*Attitude*Feeling*Pro-con + β_{32}*MJC*Feeling*Pro-con + r_0 + r_1*Pro-con + r_2*Feeling + r_3*Feeling*Pro-con + ε} by (15%) and the Pro Con Slope variance by (29%). The Pro Con slope variance is also reduced by MJC {Y = β_{00} + β_{01}*MJC + β_{10}*Pro-con + β_{11}*MJC*Pro-con + β_{20}*Feeling + β_{21}*MJC*Feeling + β_{30}*Feeling*Pro-con + β_{31}*MJC*Feeling*Pro-con + r_0 + r_1*Pro-con + r_2*Feeling + r_3*Feeling*Pro-con + ε} by (21%).

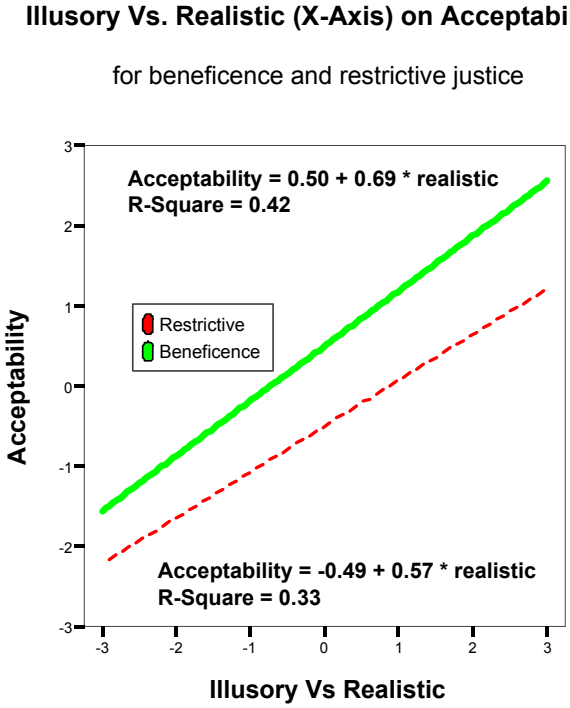
The Details slope variance for de-escalation and escalation details is moderated by attitude {Y = β_{00} + β_{01}*Attitude + β_{10}*Pro-con + β_{11}*Attitude*Pro-con + β_{20}*Details + β_{21}*Attitude*Details + β_{30}*Details*Pro-con + β_{31}*Attitude*Details*Pro-con + r_0 + r_1*Pro-con + r_2*Details + r_3*Details*Pro-con + ε} by (14%) and the Pro Con Slope variance by (11%). The Pro Con interaction Details slope is also moderated by attitude by (22%). The Pro Con Slope variance is further reduced by the combined moderator effect {Y = β_{00} + β_{01}*Attitude + β_{02}*MJC + β_{10}*Pro-con + β_{11}*Attitude*Pro-con + β_{12}*MJC*Pro-con + β_{20}*Details + β_{21}*Attitude*Details + β_{22}*MJC*Details + β_{30}*Details*Pro-con + β_{31}*Attitude*Details*Pro-con + β_{32}*MJC*Details*Pro-con + r_0 + r_1*Pro-con + r_2*Details + r_3*Details*Pro-con + ε} by (18%).

The largest reduction in variance is for the slope of the stage of the argument. MJC {Y = β_{00} + β_{01}*MJC + β_{10}*Pro-con + β_{11}*MJC*Pro-con + β_{20}*Stage + β_{21}*MJC*Stage + β_{30}*Stage*Pro-con + β_{31}*MJC*Stage*Pro-con + r_0 + r_1*Pro-con + r_2*Stage + r_3*Stage*Pro-con + ε} moderates the Stage slope variance by (45%) and the Pro Con slope variance by (18%). Attitude {Y = β_{00} + β_{01}*Attitude + β_{10}*Pro-con + β_{11}*Attitude*Pro-con + β_{20}*Stage + β_{21}*Attitude*Stage + β_{30}*Stage*Pro-con + β_{31}*Attitude*Stage*Pro-con + r_0 + r_1*Pro-con + r_2*Stage + r_3*Stage*Pro-con + ε} moderates the Stage slope variance by (13%) and the Pro Con slope variance by (10%). The combined effect {Y = β_{00} + β_{01}*Attitude + β_{02}*MJC + β_{10}*Pro-con + β_{11}*Attitude*Pro-con +

β_{12}*MJC*Pro-con + β_{20}*Stage + β_{21}*Attitude*Stage + β_{22}*MJC*Stage + β_{30}*Stage*Pro-con + β_{31}*Attitude*Stage*Pro-con + β_{32}*MJC*Stage*Pro-con + r_0 + r_1*Pro-con + r_2*Stage + r_3*Stage*Pro-con + ε} moderates the stage slope variance by (57%) and the Pro Con slope variance (28%). All the effects including those that failed Cohen's 10% criteria were significant with a Chi Square value at p. < 0.000.

4.6. Proportion Reduction of Error

Figure 9: The effect of the interaction between perceived realism and considerations of beneficence or restrictive justice representing equation: {$Y = \beta_{00} + \beta_{10}$*Pro-con + β_{20}*Realistic + β_{30}*Realistic*Pro-con + r_0 + r_1*Pro-con + r_2*Realistic +r_3*Realistic*Pro-con + ε}, where Y=61% of the proportion reduction in error accounted for by Illusory and Realistic perceptions of the arguments.



Includes constant in equation Y = a + bx + e

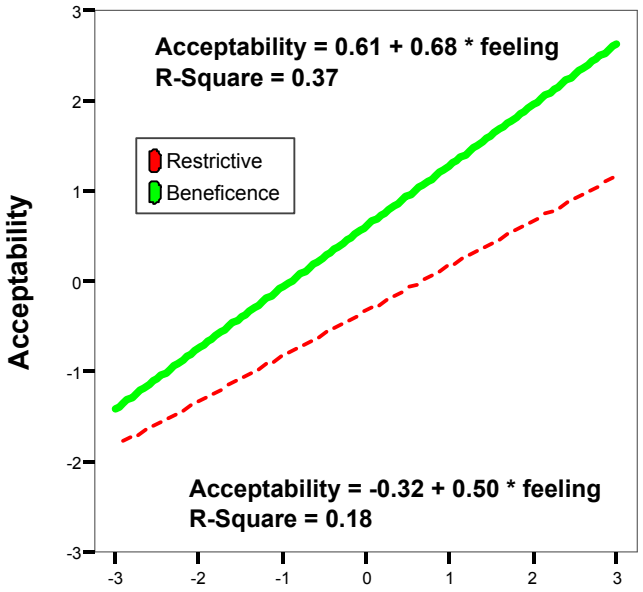
Respondents rated their perception of the main point of each argument from illusory (-3) to realistic (+3). The slopes for beneficence (thick) and restrictive justice considerations (thin) confirm the expected logical value that arguments seeming realistic are better acceptable than when they seem illusory. Arguments seeming realistic were acceptable, while arguments seeming illusory were not. The slope for beneficent consideration (thick) increases by (+ .69),

while the slope for restrictive justice considerations (thin) increases at about (+ .57). Simultaneously beneficent considerations are categorically endowed over restrictive justice. Con-arguments are even better acceptable than pro-arguments as realistic perceptions increase.

Figure 10: portrays the effect of the interaction between evoked feelings and considerations of beneficence or restrictive justice representing equation: {$Y = \beta_{00} + \beta_{10}$*Pro-con + β_{20}*Feeling + β_{30}*Feeling*Pro-con + $r_0 + r_1$*Pro-con + r_2*Feeling + r_3*Feeling*Pro-con +ε} where Y=57% of the proportion reduction in error accounted for by Destructive and Constructive Feelings evoked by the arguments.

Feeling (X-Axis) on Acceptability (Y-Axis)

for beneficence and restrictive justice

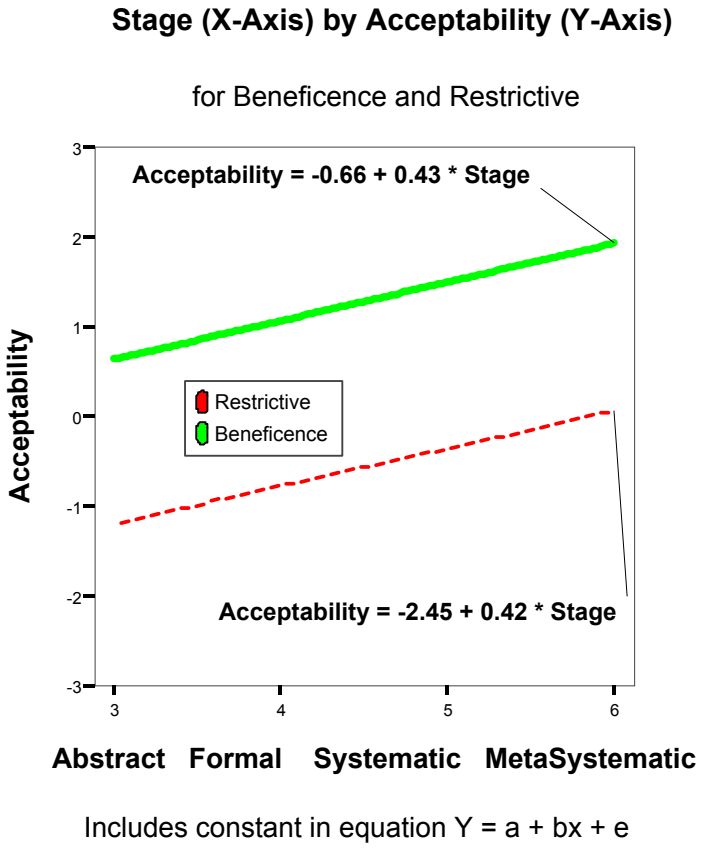


Includes constant in equation Y = a + bx + e

Respondents rated whether the main point of an argument evoked from destructive (-3) to constructive (+3) feelings. The slopes for beneficence & restrictive justice considerations confirm the expected logical value that arguments evoking constructive feelings are better acceptable than when they evoke destructive feelings. Arguments evoking constructive feelings were acceptable, arguments evoking destructive feelings were not. Simultaneously beneficent considerations are more acceptable than restrictive justice is.

The slope for beneficent considerations increases by (+ .68), while the slope for restrictive justice considerations increases by (+ .50). Beneficent considerations are even better acceptable than restrictive justice is as the feeling evoked is judged more constructive.

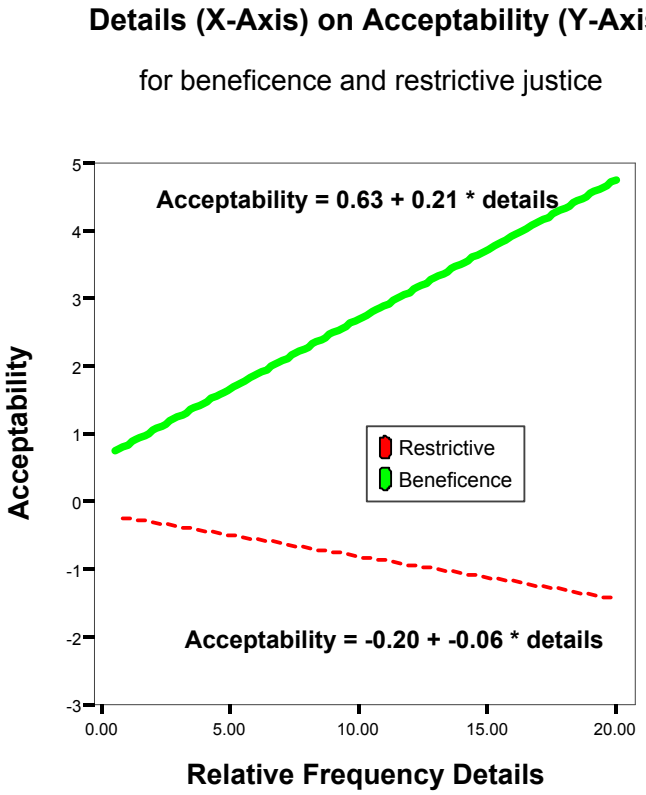
Figure 11: Portrays the effect of the interaction between the stage of argument and considerations of beneficence or restrictive justice representing equation: {$Y = \beta_{00} + \beta_{10}$*Pro-con + β_{20}*Stage + β_{30}*Stage*Pro-con + $r_0 + r_1$*Pro-con + r_2*Stage + r_3*Stage*Pro-con +ε}, where Y=46% of the proportion reduction in error accounted for by the hierarchical stage structure of the arguments.



The structure of the argument was scored using Kohlberg's stages and Common's HCSS. The slopes for beneficence and restrictive justice confirm expectations based on stage theory: Arguments representing higher stage structure are better acceptable than when they represent lower stage structure. However, beneficent considerations and restrictive justice appear to represent two domains despite their correspondence by stage theory.

The first is categorically acceptable over the second. The slope for beneficent considerations increases by (+ 0.43) and the slope for restrictive justice considerations increases by (+ 0.42) forming parallel slopes.

Figure 12: The effect of the interaction between the relative frequency of escalation and de-escalation details and considerations of beneficence or restrictive justice through the equation: {$Y = \beta_{00} + \beta_{10}$*Pro-con + β_{20}*Details + β_{30}*Details*Pro-con + $r_0 + r_1$*Pro-con + r_2*Details + r_3*Details*Pro-con + ε}, where Y=40% of the proportion reduction in error accounted for by the frequency of de-escalation details in con-arguments and escalation details in pro-arguments.



The relative frequency of escalation details in pro-arguments and of de-escalation details in con-arguments were scored using the CEDM. The slopes for beneficence & restrictive justice considerations confirm the expected value that arguments representing de-escalation details are better acceptable, than arguments representing escalation details. However, as the frequency of escalation and de-escalation details increases along the X-

axis, there is a corresponding increase for beneficent considerations (thick line), and a decrease for restrictive justice considerations (thin line). The slopes for de-escalation details increase by (+0.20) and the slopes for escalation details decrease by (-0.06) as the details increase. This is not consistent with the expected logical response to increase in information. Increasing frequency of de-escalation details increase respondents' acceptability, but the reverse is true for the relative frequency of escalation details. The more escalation details the less acceptable the argument. Respondents seem to utilize increases in beneficent details, while they reject increases in restrictive justice details more. Taking into account that most of the subjects in the sample disagreed with the need for war it can be assumed that the stressing of pro escalation details does not convince them, rather produces a boomerang effect. Increases in details, which fail to correspond with respondents' attitude automatically cause the argument to be rejected more. For example, if one is against the war and a speaker provides an elaborate detailed argument in favor of war, then one may categorically respond, "forget it, enough with all that stuff". Increasing information increases respondents' acceptance of arguments when in accordance with persons' attitude, but if inconsistent with their attitude it may have the opposite effect and the argument becomes less acceptable.

Having evidence that respondents' acceptability of arguments occurred as predicted for illusory or realistic and destructive or constructive feelings, but not exactly for the frequency of escalation details, we turn our attention to the moderation of moral judgment competence and attitude for beneficence/restrictive considerations in figure 9 and Table 7.

4.7. MODERATION

4.7.1. Moderation of beneficence and restrictive justice considerations by MJC and/or attitude bias

Do the two between subject moderators, the capacity to rely on internal moral principles or attitude bias, moderate the intercept and slope variances in the interactions of beneficence versus restrictive considerations and perceptions of argument as realistic, destructive or constructive feeling evoked by the argument, the relative frequency of

escalation & de-escalation details and the stage of the argument? Theses moderators represent two closely related views. At the most automatic level decisions can be made based on attitude. At the higher cognitive level decisions can be made by reasoning. Thus, we compare three sources for the reduction in intercept and slope variances derived from two between-subject variables. First, respondents' attitude bias is derived from the question, did you agree with the need for the Iraq war? Using a likert scale from (–3) Strongly Disagree to (+3) Strongly Agree, respondents who scored below zero were said to disagree, at zero were said to be uncertain and above zero were said to agree. Second, respondents' capacity to rely on internal moral principles is a measure of the sensitivity to stage structure consistent with hierarchical stage theory based on the research design (see Instrument). Third, the combined moderators are introduced by the interaction of beneficence versus restrictive considerations and a second within-subject factor.

The equation for moderation by attitude bias,

$\{Y = \beta_{00} + \beta_{01}*Attitude + \beta_{10}*Pro\text{-}con + \beta_{11}*Attitude*Pro\text{-}con + r_0 + r_1*Pro\text{-}con + \varepsilon\}$

The equation for moderation by moral judgment competence,

$\{Y = \beta_{00} + \beta o1*MJC + \beta_{10}*Pro\text{-}con + \beta_{11}*MJC*Pro\text{-}con + r_0 + r_1*Pro\text{-}con + \varepsilon\}$

The equation for moderation their combined effect,

$\{Y = \beta_{00} + \beta_{01}*Attitude + \beta_{02}*MJC + \beta_{10}*Pro\text{-}con + \beta_{11}*Attitude*Pro\text{-}con + \beta_{12}*MJC*Pro\text{-}con + r_0 + r_1*Pro\text{-}con + \varepsilon\}$

4.7.2. Moderation of the Slope Variance for Beneficence and Restrictive Considerations

Figure 13: portrays the moderation of moral judgment competence and attitude bias of the variance in the effect of beneficence and restrictive justice considerations on respondent's acceptability of arguments from figure 4.

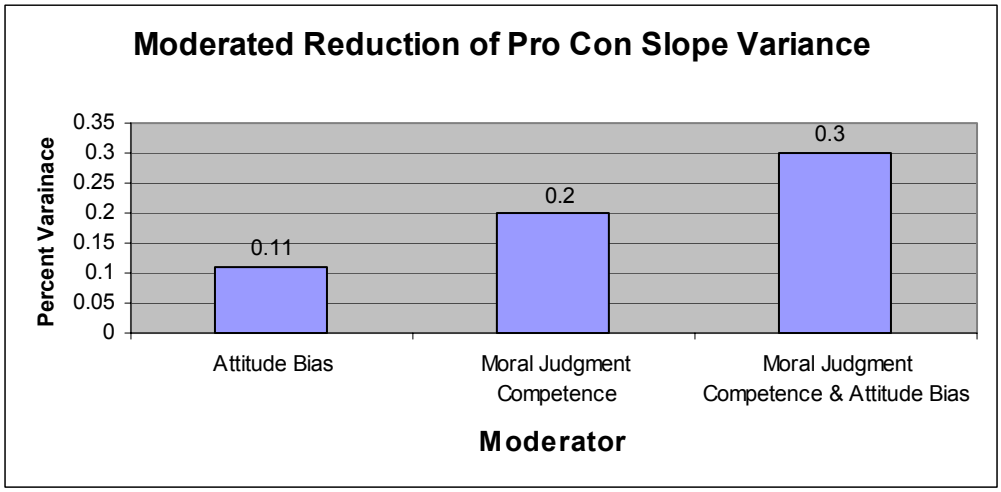


Table 7: depicts relevance and significance of moderated effects of pro-con slope variance attributable to moral judgment competence, attitude and their combined effect for respondents' acceptability.

Moderator on Effect of Pro Con	PRE	Likelihood Ratio	df	Sig.
Moral Judgment Competence				
Intercept	0.018770	1607.765346	4	0.000000
Slope Pro Con	0.195755			
Attitude Bias				
Intercept	0.000086	1583.821275	4	0.000000
Slope Pro Con	0.108099			
Moral Judgment Competence & Attitude Bias				
Intercept	0.018813	1645.085257	5	0.000000
Slope Pro Con	0.300636			

Figure 13 & Table 7 compare the percent of the slope variance for beneficence and restrictive justice that can be attributed to respondents' moral judgment competence, attitude bias and their combined effect.

Respondents' capacity to rely on internal moral principles is the best single moderator of the slope variance for beneficence and restrictive justice considerations. Moral judgment competence can be attributed with 20% of the pro and con slope variance by model: {$Y = \beta_{00} + \beta_{01}*MJC + \beta_{10}*Pro\text{-}con + \beta_{11}*MJC*Pro\text{-}con + r_0 + r_1*Pro\text{-}con + \varepsilon$}. Respondents' attitude bias

accounts for 11% of the slope variance for beneficence over restrictive considerations by model: {$Y = \beta_{00} + \beta_{01}$*Attitude + β_{10}*Pro-con + β_{11}*Attitude*Pro-con + $r_0 + r_1$*Pro-con + ε}. The combined moderation of MJC and Attitude can be attributed with 30% of the slope variance by model: {$Y = \beta_{00} + \beta_{01}$*MJC + β_{02}*Attitude + β_{10}*Pro-con + β_{11}*MJC*Pro-con + β_{12}*Attitude*Pro-con + $r_0 + r_1$*Pro-con + ε} by (30%). The reduction in variance by MJC and Attitude bias are discreet and complimentary. Their combined effect is the sum of their individual effects and these effects are relevant and significant with $p < .001$. Two-thirds of the explained slope variance can be attributed to respondents' capacity to rely on internal principles and one-third can be attributed to respondents' attitude bias.

Figure 14 A, B & C: Portray the slopes for beneficence over restrictive considerations as moderated by respondents' attitude bias, capacity to rely on internal principles and their combined moderation.

Figure 14 A: Attitude bias is based on {$Y = \beta_{00} + \beta_{01}$*Attitude + β_{10}*Pro-con + β_{11}*Attitude*Pro-con + $r_0 + r_1$*Pro-con + ε } where Y=11% reduction of the Pro Con slope variance by respondents attitude bias: Disagree, uncertain, or agree with the need for war.

Pro Con by Attitude (X-Axis) on acceptability (Y-Axis)

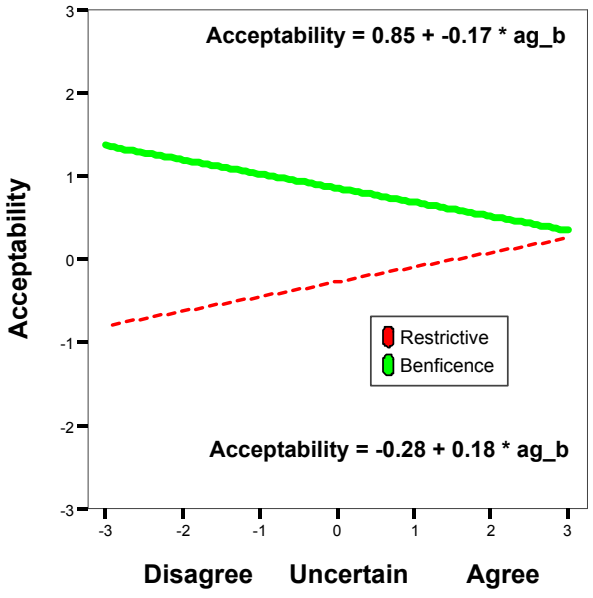
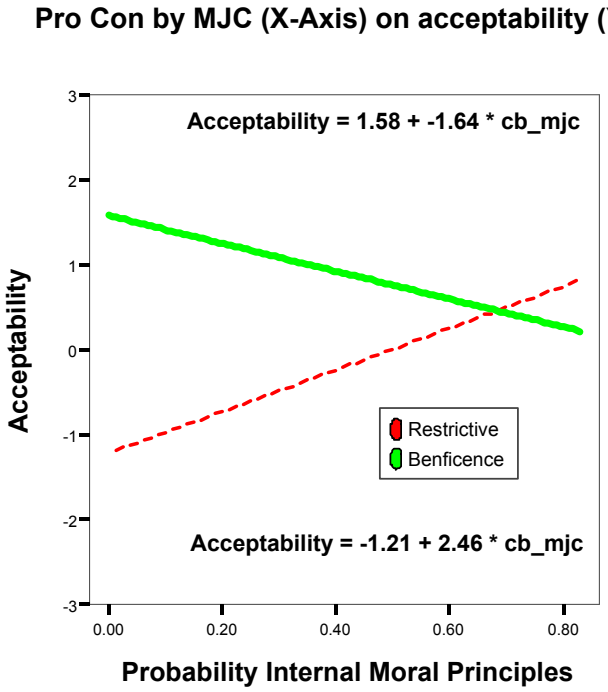


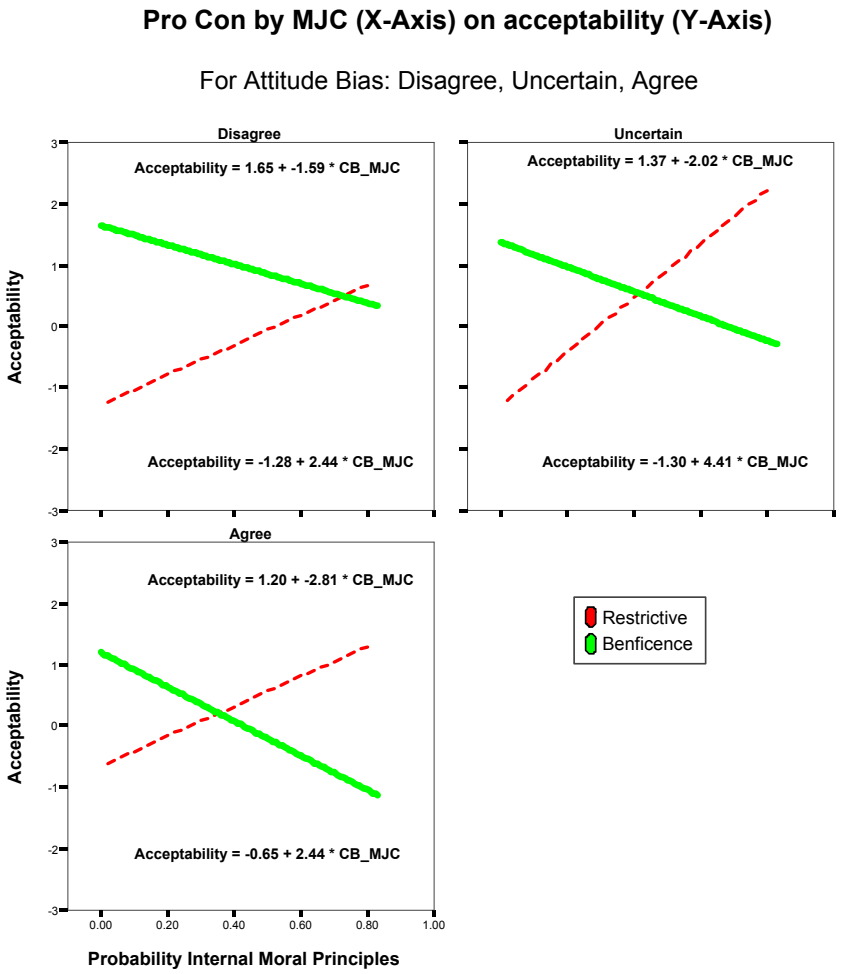
Figure 14 B: MJC is based on {$Y = \beta_{00} + \beta_{01}*MJC + \beta_{10}*Pro\text{-}con + \beta_{11}*MJC*Pro\text{-}con + r_0 + r_1*Pro\text{-}con + \varepsilon$} where Y=20% reduction of the Pro Con slope variance by respondents' capacity to rely on internal moral principles.



Here we evidence for the first time a change in the categorical preference for beneficence over restrictive considerations. In both frames, arguments seem generally better acceptable if they represented beneficent considerations (thick line) than if they represent restrictive justice considerations (thin line). However this effect is reduced the more respondents agreed with the need for the war (left frame). The slope for beneficence consideration decreases by (-0.17), while the slope for restrictive justice increases by (0.18). On the right, as respondents' capacity to rely on internal moral principles increases, the slope for beneficence decreases by (-1.64), while the slope for restrictive justice increases by (2.46). At the transition between very high and extraordinarily high capacity, the slopes cross over and restrictive justice considerations are accepted better than beneficence. By combining the moderating effect for MJC and attitude bias, we can see that the increase in the slopes for restrictive considerations is identical (+2.44) for persons who disagreed and who agreed with the need for the Iraq war. A difference is observed in the decreasing slopes for restrictive considerations. The slope for persons

who disagreed decreases by (-1.58), while for persons who agreed the slope decreases by (-2.81). This produces a higher threshold for the preference reversal for persons who disagreed and a lower threshold for persons who agreed. The slopes for persons who were uncertain resemble that for those who agreed. Persons who were uncertain seem to average the difference between the other two groups in the decrease of the slope for beneficence, while they almost double the increase in the slope for restrictive considerations.

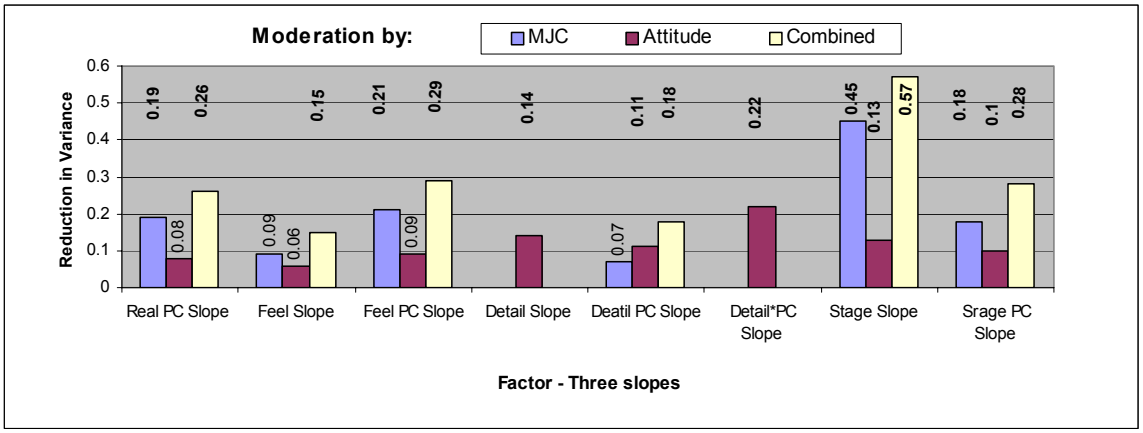
Figure 14 C: Combined Moderation effect through the equation: {Y = β_{00} + β_{01}*Attitude + β_{02}*MJC + β_{10}*Pro-con + β_{11}*Attitude*Pro-con + β_{12}*MJC*Pro-con + r_0 + r_1*Pro-con + ε}, where Y=30% reduction in Pro Con variance by the combined moderators: MJC & Attitude Bias.



4.7.3. Moderated Reduction in Slope Variance by MJC, Attitude Bias & their combination

Equation for single moderator: {$Y = \beta_{00} + \beta_{01}*Mod(1) + \beta_{10}*X(1) + \beta_{11}*Mod(1)*X(1) + \beta_{20}*X(2) + \beta_{21}*Mod(1)*X(2) + \beta_{30}*X(2)*X(1) + \beta_{31}*Mod(1)*X(2)*X(1) + r_0 + r_1*X(1) + r_2*X(2) + r_3*X(2)*X(1) + \varepsilon$} and for combined moderators: {$Y = \beta_{00} + \beta_{01}*Mod(1) + \beta_{02}*Mod(2) + \beta_{10}*X(1) + \beta_{11}*Mod(1)*X(1) + \beta_{12}*Mod(2)*X(1) + \beta_{20}*X(2) + \beta_{21}*Mod(1)*X(2) + \beta_{22}*Mod(2)*X(2) + \beta_{30}*X(2)*X(1) + \beta_{31}*Mod(1)*X(2)*X(1) + \beta_{32}*Mod(2)*X(2)*X(1) + r_0 + r_1*X(1) + r_2*X(2) + r_3*X(2)*X(1) + \varepsilon$}.

Figure 15: Portrays the relevance of MJC, Attitude Bias, and their combined effect as moderators in reducing the variance of the slopes associated with the interaction of beneficence and restrictive considerations.



We will discuss only the effects found to conform to Cohen's 10% criteria. The relevance of realistic versus illusory perceptions is moderated by means of the Pro Con slope by MJC {$Y = \beta_{00} + \beta_{01}*MJC + \beta_{10}*Pro\text{-}con + \beta_{11}*MJC*Pro\text{-}con + \beta_{20}*Realistic + \beta_{21}*MJC*Realistic + \beta_{30}*Realistic*Pro\text{-}con + \beta_{31}*MJC*Realistic*Pro\text{-}con + r_0 + r_1*Pro\text{-}con + r_2*Realistic + r_3*Realistic*Pro\text{-}con + \varepsilon$} by (19%) and the combined effect of MJC and attitude {$Y = \beta_{00} + \beta_{01}*Attitude + \beta_{02}*MJC + \beta_{10}*Pro\text{-}con + \beta_{11}*Attitude*Pro\text{-}con + \beta_{12}*MJC*Pro\text{-}con + \beta_{20}*Realistic + \beta_{21}*Attitude*Realistic + \beta_{22}*MJC*Realistic + \beta_{30}*Realistic*Pro\text{-}con + \beta_{31}*Attitude*Realistic*Pro\text{-}con + \beta_{32}*MJC*Realistic*Pro\text{-}con + r_0 + r_1*Pro\text{-}con + r_2*Realistic + r_3*Realistic*Pro\text{-}con + \varepsilon$} by (26%), which represents the sum of the individual reduction in variance.

The Feeling slope variance for constructive versus destructive feelings was moderated by the combined effect of MJC and attitude {$Y = \beta_{00} + \beta_{01}*Attitude + \beta_{02}*MJC + \beta_{10}*Pro\text{-}con +$

β_{11}*Attitude*Pro-con +β_{12}*MJC*Pro-con + β_{20}*Feeling + β_{21}*Attitude*Feeling + β_{22}*MJC*Feeling + β_{30}*Feeling*Pro-con + β_{31}*Attitude*Feeling*Pro-con + β_{32}*MJC*Feeling*Pro-con + r_0 + r_1*Pro-con + r_2*Feeling + r_3*Feeling*Pro-con + ε} by (15%) and the Pro Con Slope variance by (29%). The Pro Con slope variance is also reduced by MJC {*Y* = β_{00} + β_{01}*MJC + β_{10}*Pro-con + β_{11}*MJC*Pro-con + β_{20}*Feeling + β_{21}*MJC*Feeling + β_{30}*Feeling*Pro-con + β_{31}*MJC*Feeling*Pro-con + r_0 + r_1*Pro-con + r_2*Feeling + r_3*Feeling*Pro-con + ε} by (21%).

The Details slope variance for de-escalation and escalation details is moderated by attitude {*Y* = β_{00} + β_{01}*Attitude + β_{10}*Pro-con + β_{11}*Attitude*Pro-con + β_{20}*Details + β_{21}*Attitude*Details + β_{30}*Details*Pro-con + β_{31}*Attitude*Details*Pro-con + r_0 + r_1*Pro-con + r_2*Details + r_3*Details*Pro-con + ε} by (14%) and the Pro Con Slope variance by (11%). The Pro Con & Details interaction slope is also moderated by attitude by (22%). The Pro Con Slope variance is further reduced by the combined moderator effect {*Y* = β_{00} + β_{01}*Attitude + β_{02}*MJC + β_{10}*Pro-con + β_{11}*Attitude*Pro-con + β_{12}*MJC*Pro-con + β_{20}*Details + β_{21}*Attitude*Details + β_{22}*MJC*Details + β_{30}*Details*Pro-con + β_{31}*Attitude*Details*Pro-con + β_{32}*MJC*Details*Pro-con + r_0 + r_1*Pro-con + r_2*Details + r_3*Details*Pro-con + ε} by (18%).

The largest reduction in variance is for the slope of the stage of the argument. MJC {*Y* = β_{00} + β_{01}*MJC + β_{10}*Pro-con + β_{11}*MJC*Pro-con + β_{20}*Stage + β_{21}*MJC*Stage + β_{30}*Stage*Pro-con + β_{31}*MJC*Stage*Pro-con + r_0 + r_1*Pro-con + r_2*Stage + r_3*Stage*Pro-con + ε} moderates the Stage slope variance by 45% and the Pro Con slope variance by (18%). Attitude {*Y* = β_{00} + β_{01}*Attitude + β_{10}*Pro-con + β_{11}*Attitude*Pro-con + β_{20}*Stage + β_{21}*Attitude*Stage + β_{30}*Stage*Pro-con + β_{31}*Attitude*Stage*Pro-con + r_0 + r_1*Pro-con + r_2*Stage + r_3*Stage*Pro-con + ε} moderates the Stage slope variance by (13%) and the Pro Con slope variance by (10%). The combined effect {*Y* = β_{00} + β_{01}*Attitude + β_{02}*MJC + β_{10}*Pro-con + β_{11}*Attitude*Pro-con + β_{12}*MJC*Pro-con + β_{20}*Stage + β_{21}*Attitude*Stage + β_{22}*MJC*Stage + β_{30}*Stage*Pro-con + β_{31}*Attitude*Stage*Pro-con + β_{32}*MJC*Stage*Pro-con + r_0 + r_1*Pro-con + r_2*Stage + r_3*Stage*Pro-con + ε} moderates the stage slope variance by (57%) and the Pro Con slope variance (28%). All the effects including those that failed Cohen's 10% criteria were significant with a Chi Square value at p. < 0.000.

4.7.4. Moderated reduction in Variance by Respondent's capacity to rely on internal moral principles

How does moral judgment competence moderate a reduction of the slope variance for the main effects of beneficence and restrictive justice and a second within-subject factor: Illusory versus realistic, Feeling, Stage and Details?

For the reduction of the Pro Con Slope variance for Stage, Illusory or Realistic perceptions, destructive or constructive feelings and de-escalation or escalation details, we used equation:

$\{Y = \beta_{00} + \beta_{01}*Mod(1) + \beta_{10}*X(1) + \beta_{11}*Mod(1)*X(1) + \beta_{20}*X(2) + \beta_{21}*Mod(1)*X(2) + \beta_{30}*X(2)*X(1) + \beta_{31}*Mod(1)*X(2)*X(1) + r_0 + r_1*X(1) + r_2*X(2) + r_3*X(2)*X(1) + \varepsilon\}$

Figure 16: The relevance of MJC in moderating the slope variance of the main effects for the within-subject factors with beneficence and restrictive justice considerations

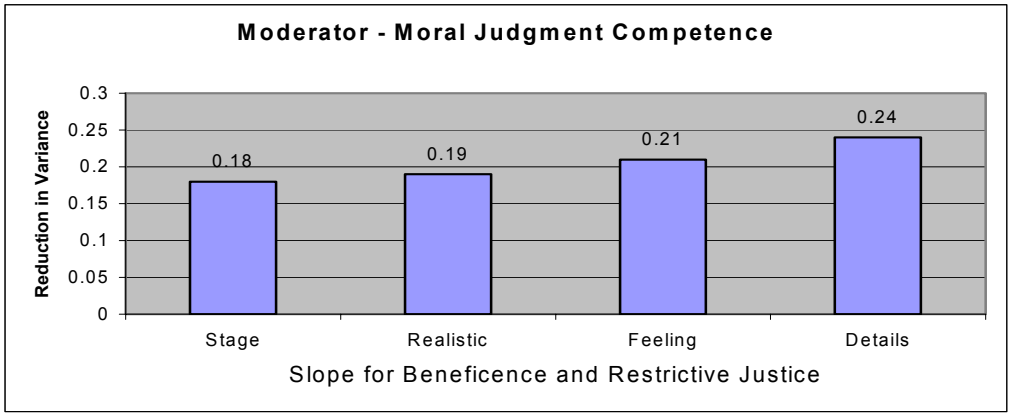


Table 8, portrays the effect of the slope of beneficence/restrictive justice considerations in interaction by the four within-subject variables with moral judgment competence as a moderator in reducing the variance for intercept and slopes.

Qualities	PRE	Likelihood Ratio	df	Sig.
Stage & Beneficence				
Intercept	0.006171	2204.918746	9	0.000000
Stage Slope	0.446309	1874.927096	5	0.000000
Pro Con Slope	0.178774			
Real & Beneficence				
Intercept	0.004360	3683.692857	9	0.000000
Real Slope	0.043977	852.907887	5	0.000000
Pro Con Slope	0.188939			
Feel & Beneficence				
Intercept	0.025085	3141.534638	9	0.000000
Feel Slope	0.123296	839.476144	5	0.000000
Pro Con Slope	0.204246			
Details & Beneficence				
Intercept	0.013329	1726.04956	9	0.000000
Details Slope	-0.375000	1253.344466	5	0.000000
Pro Con Slope	0.242235			

Moral judgment competence moderates the Stage slope variance on the effect of beneficence and restrictive justice considerations {$Y = \beta_{00} + \beta_{01}*MJC + \beta_{10}*Pro\text{-}con + \beta_{11}*MJC*Pro\text{-}con + \beta_{20}*Stage + \beta_{21}*MJC*Stage + r_0 + r_1*Pro\text{-}con + r_2*Stage + \varepsilon$} by (44% of Y) and the Feeling slope variance {$Y = \beta_{00} + \beta_{01}*MJC + \beta_{10}*Pro\text{-}con + \beta_{11}*MJC*Pro\text{-}con + \beta_{20}*Feeling + \beta_{21}*MJC*Feeling + r_0 + r_1*Pro\text{-}con + r_2*Feeling + \varepsilon$} by (12% of Y). The Pro Con Slope variance is moderated by MJC on Stage by (18% of Y), on Illusory or Realistic perceptions {$Y = \beta_{00} + \beta_{01}*MJC + \beta_{10}*Pro\text{-}con + \beta_{11}*MJC*Pro\text{-}con + \beta_{20}*Realistic + \beta_{21}*MJC*Realistic + r_0 + r_1*Pro\text{-}con + r_2*Realistic + \varepsilon$} by (19% of Y), on destructive or constructive Feelings (by 21% of Y) and on the frequency of de-escalation and escalation details {$Y = \beta_{00} + \beta_{01}*MJC + \beta_{10}*Pro\text{-}con + \beta_{11}*MJC*Pro\text{-}con + \beta_{20}*Details + \beta 21*MJC*Details + r_0 + r_1*Pro\text{-}con + r_2*Details + \varepsilon$} by (24% of Y). The remaining slopes and the intercepts fail to meet the 10% criteria for relevance.

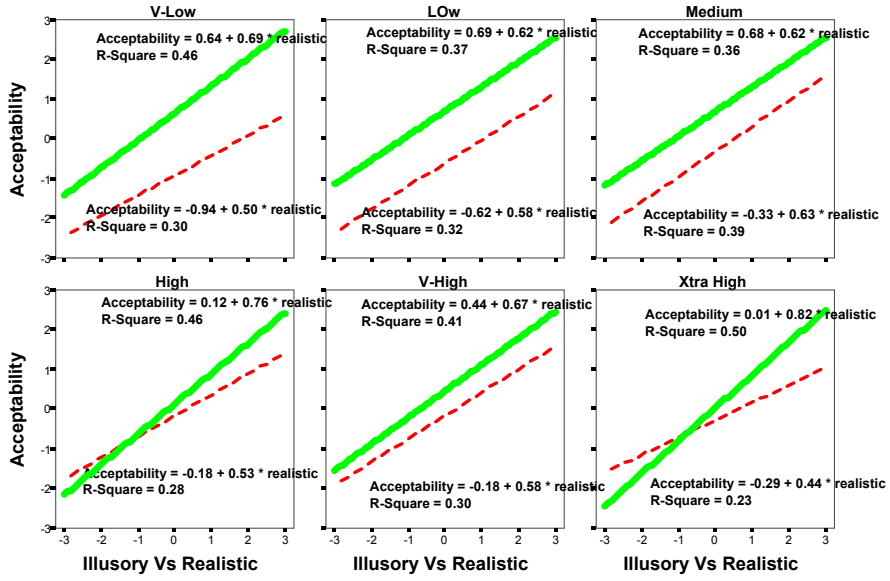
For the reduction of the Pro Con Slope variance for Illusory or Realistic perceptions {$Y = \beta_{00} + \beta_{01}*MJC + \beta_{10}*Pro\text{-}con + \beta_{11}*MJC*Pro\text{-}con + \beta_{20}*Realistic + \beta 21*MJC*Realistic + r_0 + r_1*Pro\text{-}con + r_2*Realistic + \varepsilon$}, by 19% of Y. For the reduction of the Pro Con Slope variance on destructive or constructive feelings {$Y = \beta_{00} + \beta_{01}*MJC + \beta_{10}*Pro\text{-}con + \beta_{11}*MJC*Pro\text{-}con + \beta_{20}*Feeling + \beta_{21}*MJC*Feeling + r_0 + r_1*Pro\text{-}con + r_2*Feeling + \varepsilon$}, by 21% of PRE. For the reduction of the Pro

Con Slope variance for the stage structure of the arguments {$Y = \beta_{00} + \beta_{01}*MJC + \beta_{10}*Pro\text{-}con + \beta_{11}*MJC*Pro\text{-}con + \beta_{20}*Stage + \beta_{21}*MJC*Stage + r_0 + r_1*Pro\text{-}con + r_2*Stage + \varepsilon$}, by 18% of Y. For the reduction of the Pro Con Slope variance on de-escalation and escalation details {$Y = \beta_{00} + \beta_{01}*MJC + \beta_{10}*Pro\text{-}con + \beta_{11}*MJC*Pro\text{-}con + \beta_{20}*Details + \beta_{21}*MJC*Details + r_0 + r_1*Pro\text{-}con + r_2*Details + \varepsilon$}, by 24% of Y.

Figure 17: Portrays the moderation of the slope variance for beneficence and restrictive justice by MJC and the effect of illusory or realistic perceptions through the equation.: {$Y = \beta_{00} + \beta_{01}*MJC + \beta_{10}*Pro\text{-}con + \beta_{11}*MJC*Pro\text{-}con + \beta_{20}*Realistic + \beta_{21}*MJC*Realistic + r_0 + r_1*Pro\text{-}con + r_2*Realistic + \varepsilon$} by 19% of respondents' acceptance for the interaction of beneficence and realistic perceptions of the argument.

Illusory Vs. Realistic (X-Axis) on Acceptability (Y-Axis)

for beneficence and restrictive justice by category-MJC



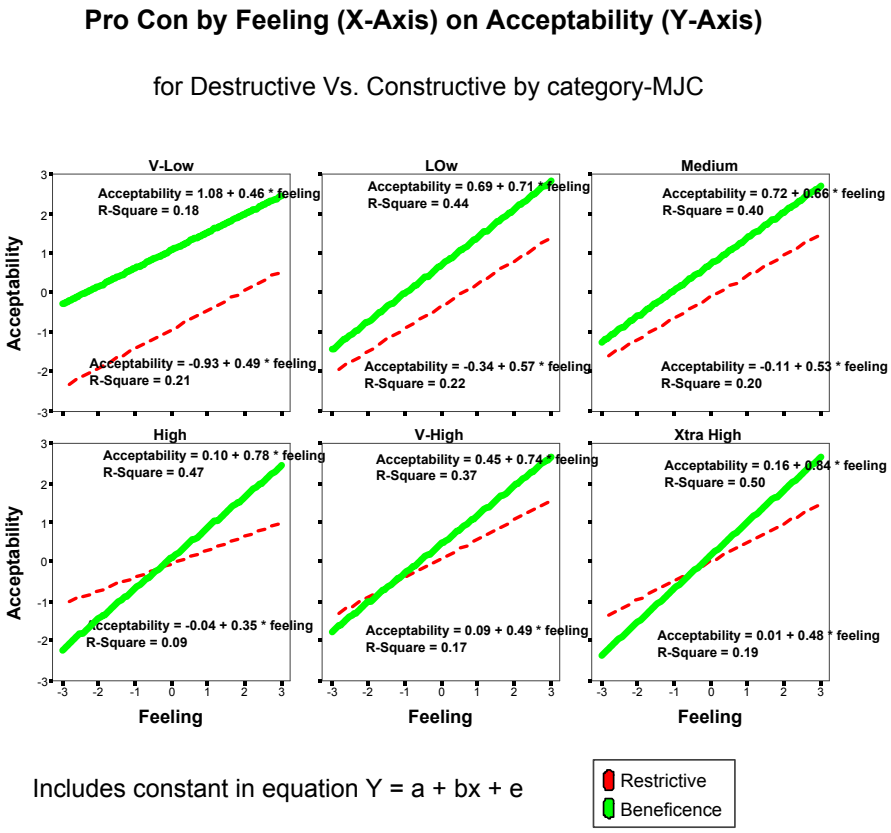
Includes constant in equation Y = a + bx + e

When we compare the moderation of the pro-con slope on illusory and realistic perceptions by categories of moral judgment competence, we observe a crossover at the

higher categories of MJC. In top panels, beneficence is preferred over restrictive considerations. This preference decreases from left to right as the categories of MJC increase. In lower panels, a cross over appears. The preference shifts from beneficence to restrictive considerations, as arguments are judged illusory. In the lower right panel, this cross over occurs earlier.

Rational utility theory explains the effect for persons at lower MJC, but not at higher MJC, thus Prospect theory can better explain this difference by formulations of gain and loss. Logically illusory arguments represent the domain of loss by reducing credible information, while restrictive considerations are considered risks against beneficence. This confirms the heuristic in prospect theory where there is an increase in risk-taking in the domain of loss by respondents at higher categories of moral judgment competence. In a similar logic, realistic arguments represent the domain of gain by increasing credible information, while beneficent considerations represent risk aversion against restrictions of the principle of beneficence. Confirming the other domain in prospect theory, there is greater risk aversion from the domain of gain at higher categories of moral judgment competence. Thus, the cross over is comparable to the risk-aversion cut-off in Cumulative Prospect theory (Kahneman and Tversky, 2000).

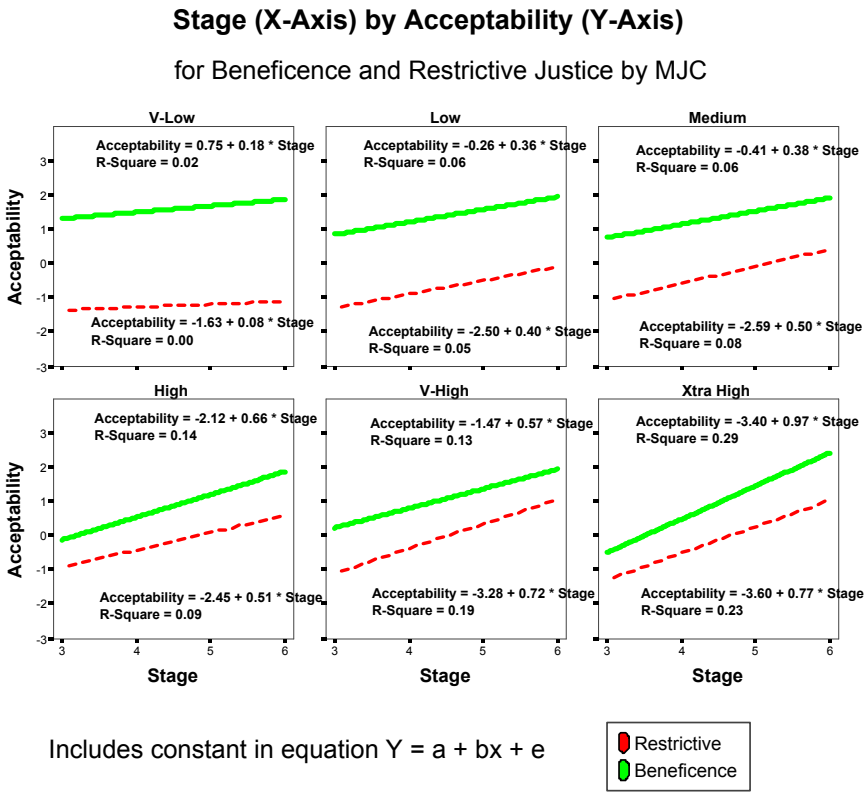
Figure 18: Portrays the moderation by MJC of the beneficence/ restrictive justice slope variance for destructive vs. constructive feelings through the equation: {$Y = \beta_{00} + \beta_{01}$*MJC + β_{10}*Pro-con + β_{11}*MJC*Pro-con + β_{20}*Feeling + β_{21}*MJC*Feeling + r_0 + r_1*Pro-con + r_2*Feeling + ε} 21% of respondents' acceptability beneficence on constructive feelings evoked by the argument.



The moderation of the pro-con slope on destructive and constructive feelings by categories of moral judgment competence resembles the effect observed in figure 17. In top panels, beneficence is preferred over restrictive considerations. This preference decreases more clearly for feelings as respondents' capacity to rely on moral principles increases left to right. In lower panels, we observe a similar cross over at the higher categories of MJC. The preference shifts from beneficence to restrictive considerations, as arguments evoke destructive feelings.

Logically arguments that evoke destructive feelings represent the domain of loss by reducing comfort with argument, while restrictive considerations are considered risks against beneficence. This confirms the heuristics in prospect theory where respondents at higher categories of moral judgment competence are willing to take a risk against the principle of beneficence when destructive feelings invoke the domain of loss. Constructive feelings represent the domain of gain by increasing respondents' experience of comfort and beneficent considerations represent risk aversion against restrictions on the principle of beneficence. Thus, we find that experienced emotions confirm the effects from the domains of gain and loss in prospect better than the argument's subjective validity. However, in both cases by maintaining that the cross over is comparable to the risk-aversion cut-off in Cumulative Prospect theory, there is greater risk aversion from the domain of gain and greater risk taking from the domain of loss as respondents' capacity to rely on moral principles increases.

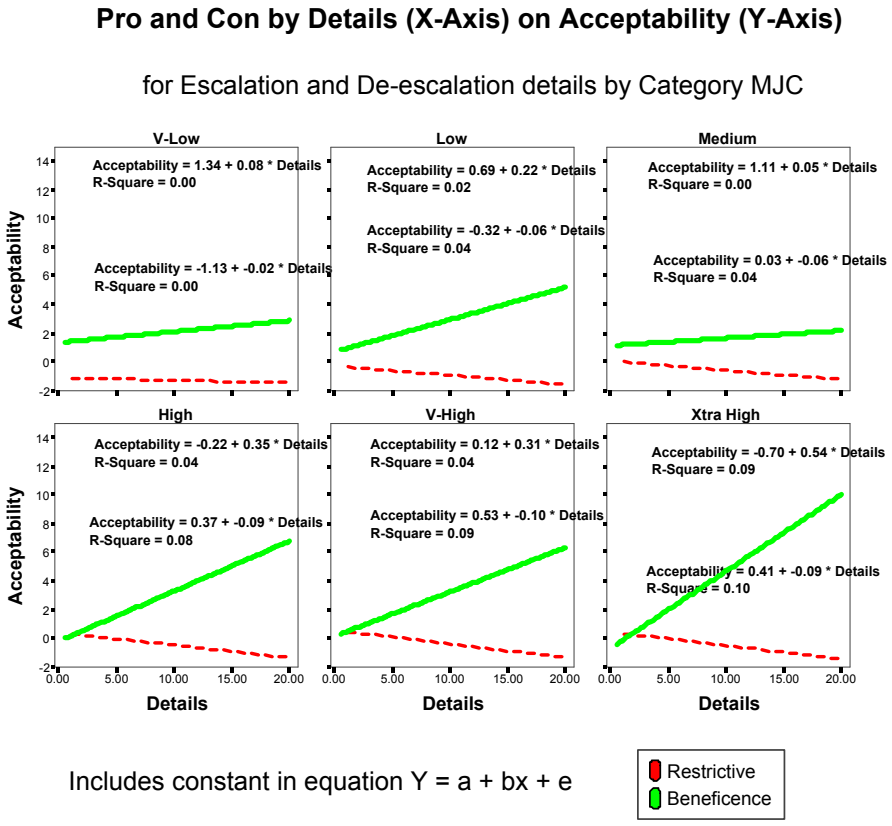
Figure 19 portrays the moderation of the slope variance for beneficence/ restrictive justice on the stage of the argument by MJC through the equation: {$Y = \beta_{00} + \beta_{01}*MJC + \beta_{10}*Pro\text{-}con + \beta_{11}*MJC*Pro\text{-}con + \beta_{20}*Stage + \beta_{21}*MJC*Stage + r_0 + r_1*Pro\text{-}con + r_2*Stage + \varepsilon$}. MJC reduces, 18% of the variance between respondents' acceptability for the interaction of pro-con slope and the stage structure of the argument.



The relevance of the stage structure in accounting for respondents' acceptability of arguments is moderated by moral judgment competence by an 18% reduction in the slope variance for beneficence and restrictive considerations. This is characterized by steeper slopes and smaller differences between the intercept for beneficence and restrictive considerations by persons with greater capacity to rely on internal moral principles. Conversely, lower capacity to rely on internal principles is characterized by shallower slopes and larger differences between the intercepts for beneficence over restrictive considerations. This accounts for greater affective disruption in judgment and greater

resistance to the influence arguments in favor of the war as the less moral option. At higher reliance on internal moral principles, the slopes are better differentiated and there is less of an impact of pro or con.

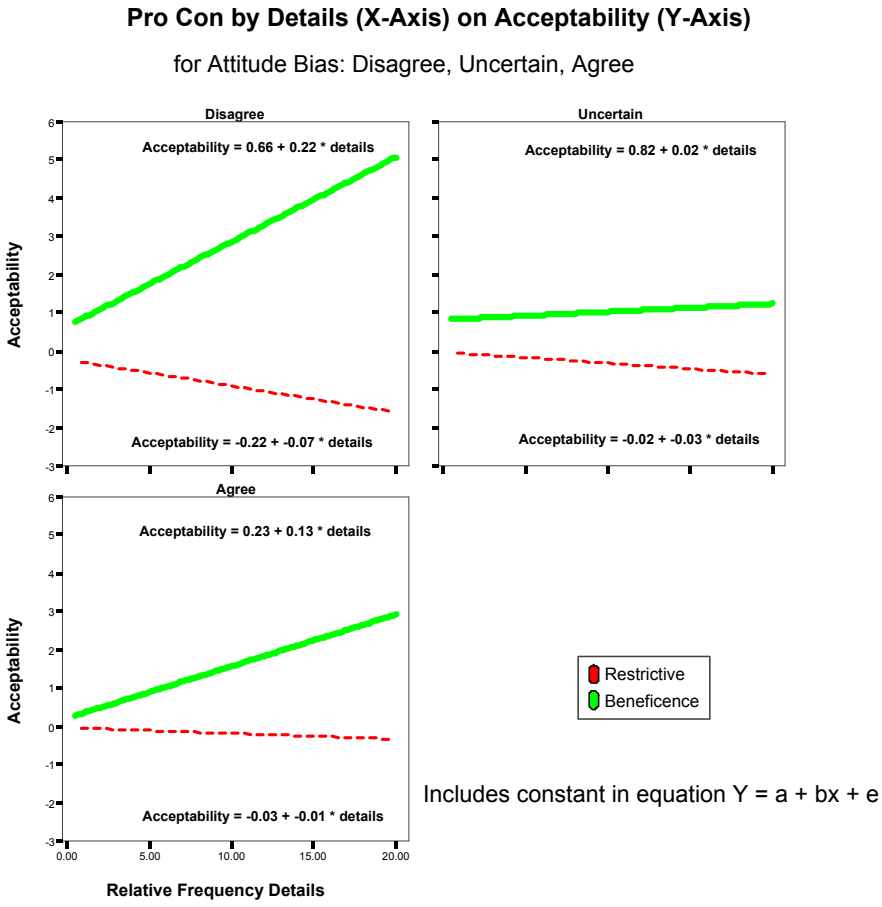
Figure 20: Pro and Con Slopes for increasing frequency of Escalation and de-escalation details moderated by six categories of moral judgment competence.



The effect where respondents accept increasing de-escalation details, but reject increasing escalation details is more pronounced with steeper slopes for de-escalation details at higher categories of MJC.

4.7.5. Moderation by Respondents' Attitude Bias: Whether they Disagreed, were Uncertain or Agreed with the need for war for Pro Con Slope Variance

Figure 21: Portrays the slopes for beneficence/ restrictive justice for the frequency of de-escalation and escalation details in the argument and the reduction in variance moderated by Attitude bias through the equation: {$Y = \beta_{00} + \beta_{01}$*Attitude e + β_{1c}*Pro-con + β_{11}*Attitude*Pro-con + β_{20}*Details + β_{21}*Attitude*Details + $r_0 + r_1$*Pro-con+ r_2*Details + ε}, where Y=11%.



The frequency of de-escalation details in con arguments and escalation details in pro arguments accounts for 24% of proportion reduction in error in respondents' acceptability of arguments. Respondents' attitude bias moderates the effect of the pro con slope variance on the frequency of details by a reduction of 11% of respondents' acceptability. This is characterized by a decrease in the acceptability of de-escalation details by persons who agreed with the need for war, and more radically by those who were uncertain.

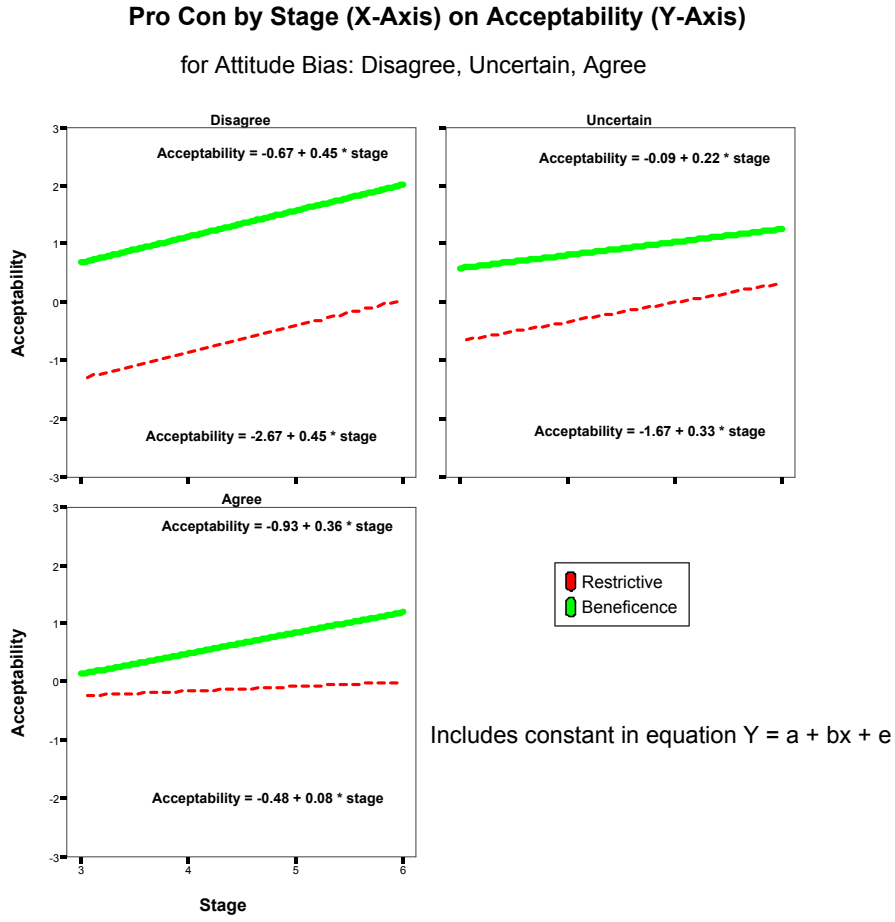
There is also a corresponding minor decrease in the rejection of increasing escalation details.

Respondents uncertain about the need for war (upper right), show a very small difference between (+ 0.02), the increase in the slope for increases in de-escalation details and a (-0.03) decrease in the slope for increases of escalation details. The slope effects are virtually zero. For this group increases in details have very little effect on their acceptance of the arguments; however, beneficence considerations are more acceptable than restrictive justice considerations.

For respondents who disagree (upper left) and respondents who agree (lower panel frame) with the need for war, these slopes are more comparable in pattern: De-escalation details improve the acceptability of arguments for persons who disagree by (0.22) and by (0.13) for those who agree. Escalation details increase likelihood that arguments will be rejected by persons who disagree by (-0.07) and by persons who agree by (-0.01).

The effect is much weaker for persons who agree with the need for war, which confirms the boomerang effect mentioned before for respondents who disagree. A corresponding boomerang effect for persons with a pro war attitude would require that increases in de-escalation details lower respondents' acceptance of pro arguments, but this is not the case. Respondents' attitude bias also moderates the effect of the slope for details by (14%) and the interaction slope for details and pro con by 22% reduction in the variance for respondents' acceptance of arguments.

Figure 22: Portrays the moderation by Attitude bias of the beneficence/ restrictive justice slopes variance for the Stage of the argument through the equation: {$Y = \beta_{00} + \beta_{01}$*Attitude e + β_{10}*Pro-con + β_{11}*Attitude*Pro-con + β_{20}*Stage + β_{21}*Attitude*Stage + $r_0 + r_1$*Pro-con+ r_2*Stage + ε}, where Y=11% of the pro-con slope variance for the stage structure of the arguments.

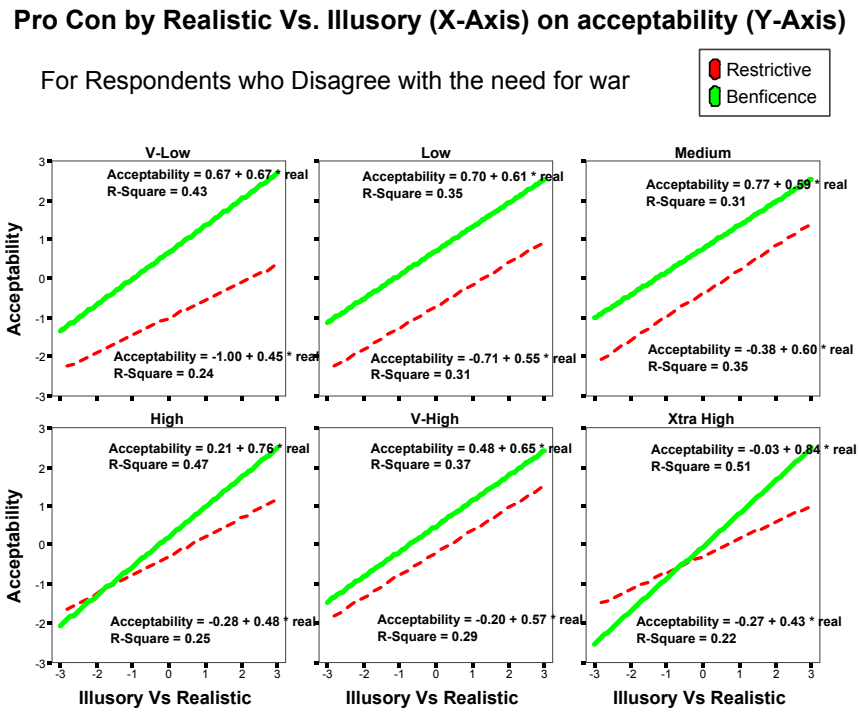


As a hierarchical measure of the structure of the argument, a tendency toward parallelism reveals two separate domains in arguments. Beneficence considerations are preferred over restrictive justice considerations. The integrity of the hierarchy in stage sequence is clearer in the top two panels, but diffused in the lower panel. Persons who disagreed with the need for war (top left) exhibit identical slopes and a clear preference for beneficence (0.45) over restrictive (0.45) considerations. There is a reduction of 21% in the difference between the slopes by persons uncertain (top right), but the preference for beneficence (0.22) and restrictive considerations (0.33) remains unchanged. Persons who agreed with the need for war also display a preference for beneficence (0.36) over

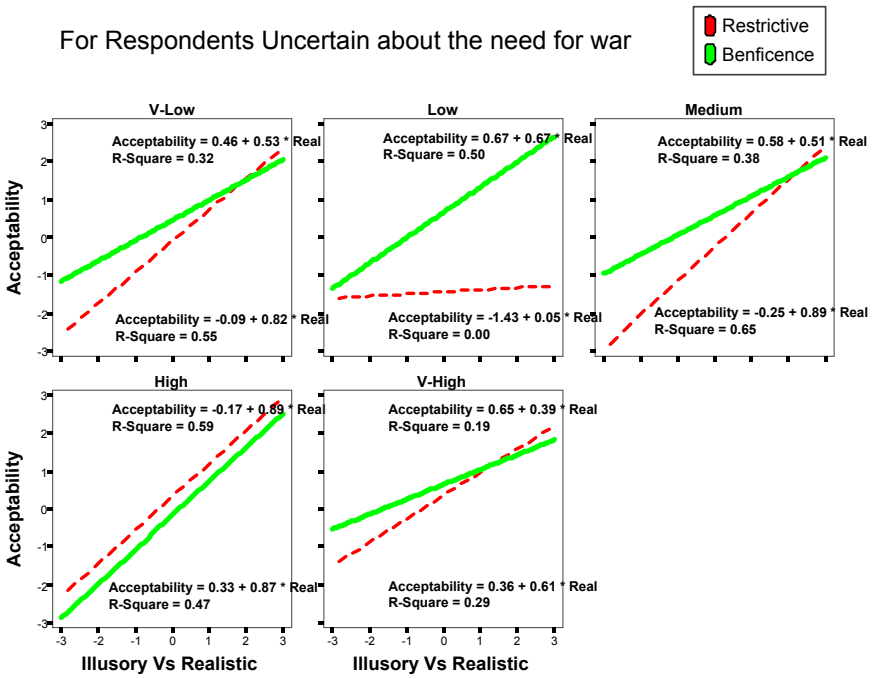
restrictive considerations (0.08). In this case, it seems that attitude bias disrupts the hierarchical sequence of the stages for arguments against the war by reducing the slope to almost zero. However, they retain the stage sequence in their preference for beneficence considerations and prefer arguments inconsistent with their attitude to arguments consistent with it. This shows that people who agree with the war understand and appreciate the moral quality of arguments against the war. Since they remain in favor of the war, they appear disconnected with their own reasoning.

4.7.6. Moderation by Respondents' Attitude and Moral Judgment Competence

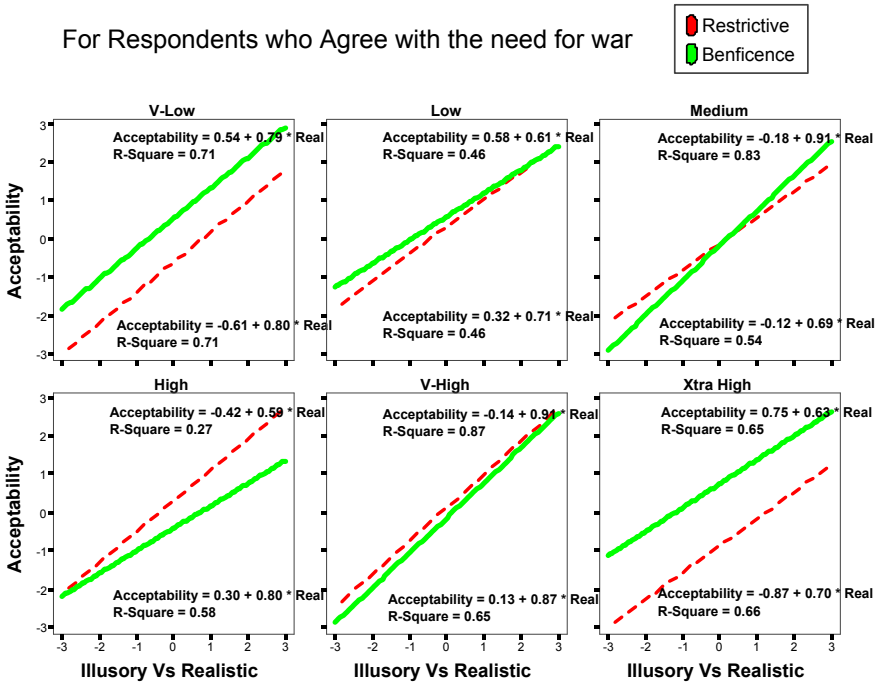
Figure 23 A, B & C: Portray a reduction of the slope variance for the interaction of beneficence & restrictive justice and illusory or realistic perceptions, moderated by the combined moderators, MJC & Attitude bias. The equation {$Y = \beta_{00} + \beta_{01}$*Attitude + β_{02}*MJC + β_{10}*Pro-con + β_{11}*Attitude*Pro-con + β_{12}*MJC*Pro-con + β_{20}*Realistic + β_{21}*Attitude*Realistic + β_{22}*MJC*Realistic + β_{30}*Realistic*Pro-con + β_{31}*Attitude*Realistic*Pro-con + β_{32}*MJC*Realistic*Pro-con + r_0 + r_1*Pro-con + r_2*Realistic + r_3*Realistic*Pro-con + ε}, yields Y=26% reduction in variance for the Pro and Con Slopes.



Pro Con by Realistic Vs. Illusory (X-Axis) on acceptability (Y-Axis)

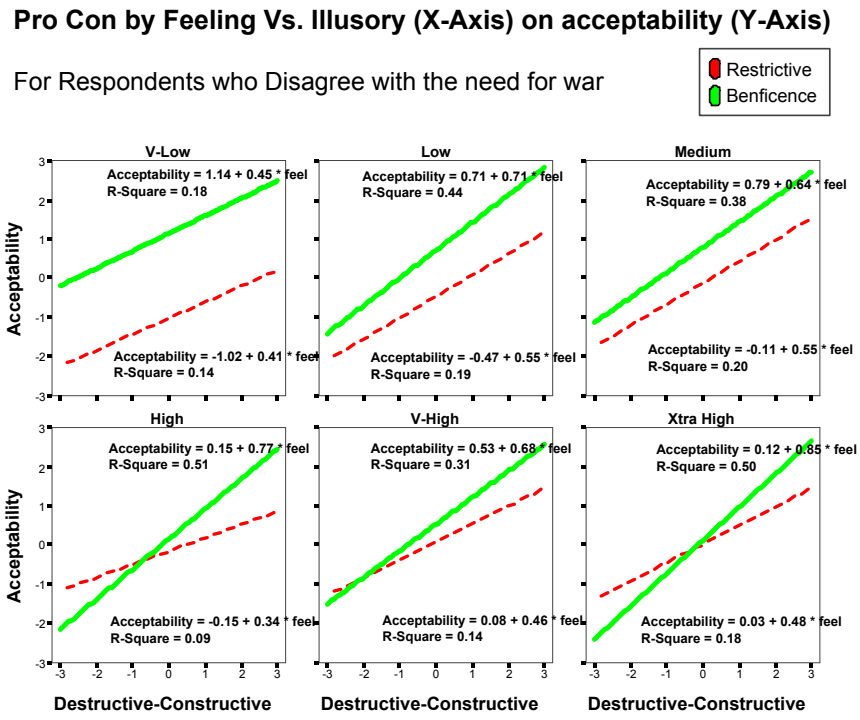


Pro Con by Realistic Vs. Illusory (X-Axis) on acceptability (Y-Axis)



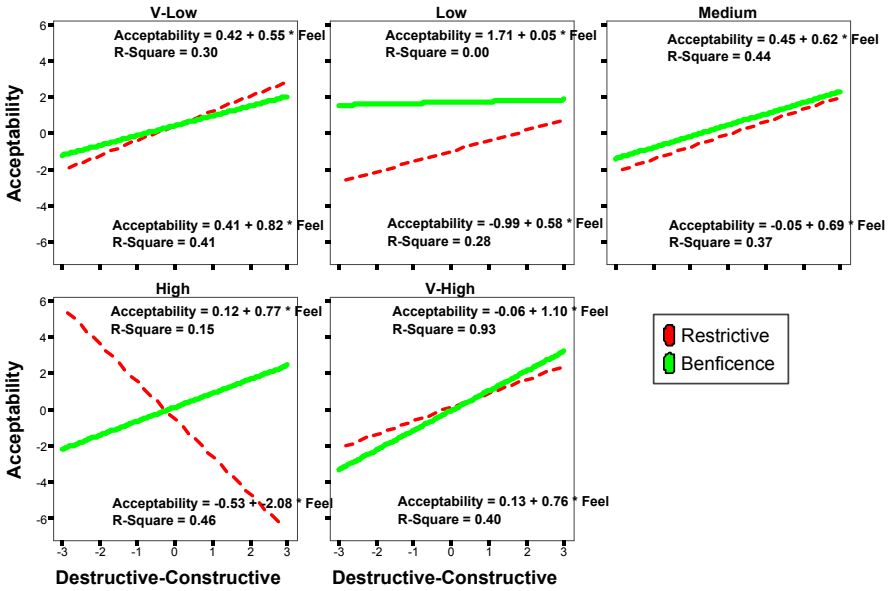
The proportion reduction in error accounted for by illusory or realistic perception in figure 9 was 61%. This Pro Con Slope variance for illusory or realistic perceptions was reduced by 19% in figure 17 when moderated by MJC. In the current representation, the combined reduction of the slope's variance moderated by MJC & attitude bias is 26%. The pattern for persons who disagreed with the need for war (top left) comprising the largest group resembles that of the total sample represented in figure 17. The pattern for persons who agreed (bottom) depicts a reduction in the difference between the corresponding slopes and an increase in the likelihood of risk taking at *medium*, *high* and *very high* categories. In the total sample, risk taking is observed at the higher categories of moral judgment competence. Persons uncertain about the war exhibit a more diverse pattern. All three panels exhibit some aspect of risk taking at category *high* of MJC. Persons who disagreed exhibit a risk aversion cut off at (–2) for illusory perceptions. Persons uncertain and who agreed exhibit a categorical weighted risk taking over risk aversion. For persons who agreed this would be consistent with their own attitude. This attitude consistency is depicted in category *very high*, but less so in *medium* for persons who agreed. Persons who disagreed were likely to engage in risk taking at highest categories of MJC when arguments seemed illusory and risk aversion when arguments seemed realistic. Risk taking was more prevalent among persons who agreed with the need for war and less prevalent for persons who were uncertain, but both groups exhibited risk taking in favor of restrictive justice even when arguments seemed realistic.

Figure 24 A, B & C: Portray a reduction of the slope variance for the interaction of beneficence & restrictive justice and destructive or constructive feelings evoked by the argument, moderated by the combined moderators, MJC & Attitude bias. The equation: {$Y = \beta_{00} + \beta_{01}$*Attitude + β_{02}*MJC + β_{10}*Pro-con + β_{11}*Attitude*Pro-con + β_{12}*MJC*Pro-con + β_{20}*Feeling + β_{21}*Attitude*Feeling + β_{22}*MJC*Feeling + β_{30}*Feeling*Pro-con + β_{31}*Attitude*Feeling*Pro-con + β_{32}*MJC*Feeling*Pro-con + $r_0 + r_1$*Pro-con + r_2*Feeling + r_3*Feeling*Pro-con + ε}, yields Y= 29% reduction in variance for the Pro Con Slopes.



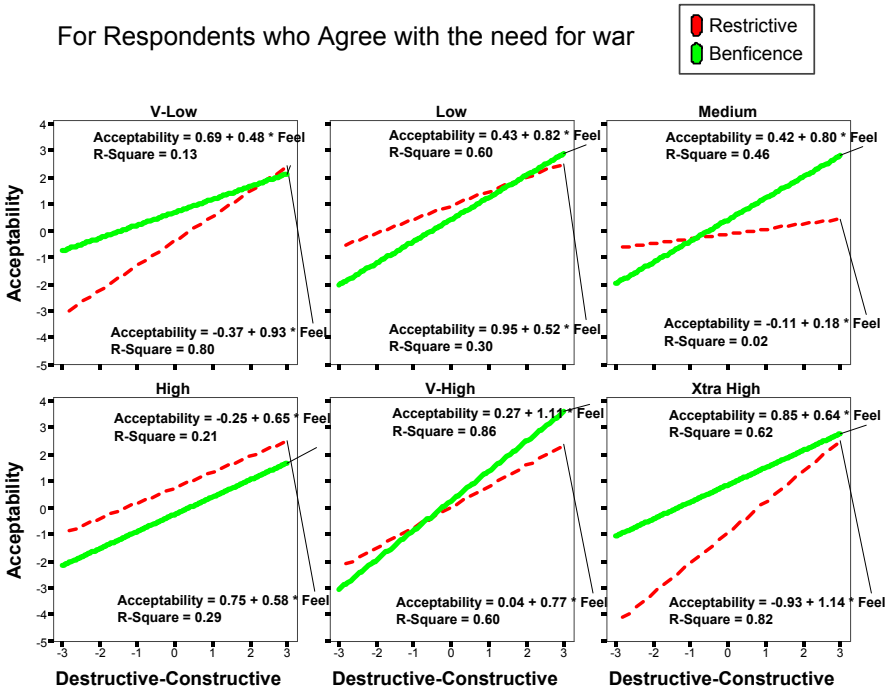
Pro Con by Feeling (X-Axis) on acceptability (Y-Axis)

For Respondents Uncertain about need for war



Pro Con by Feeling (X-Axis) on acceptability (Y-Axis)

For Respondents who Agree with the need for war



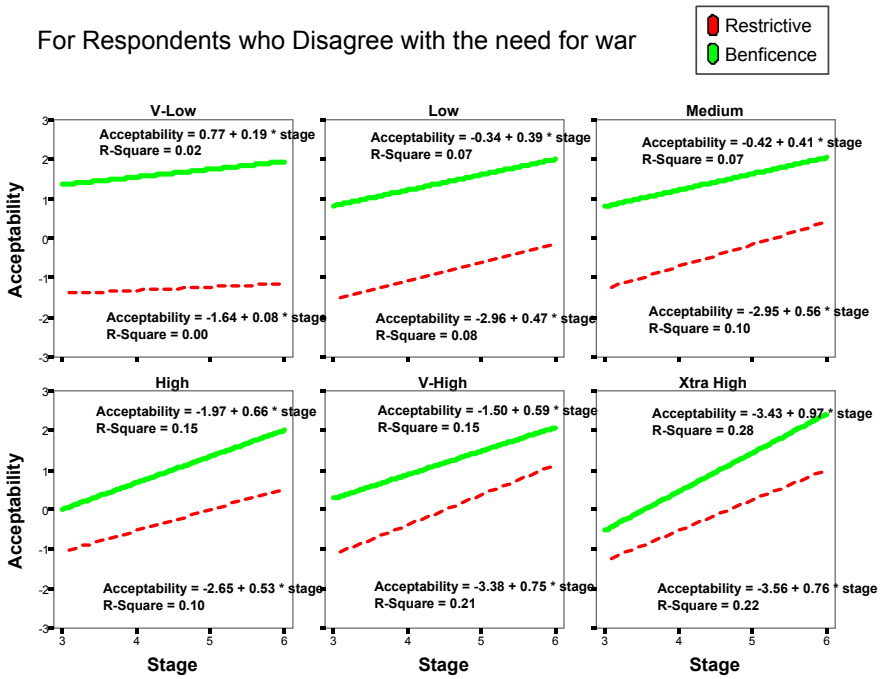
Current representation depicts further moderation by attitude in the reduction of the variance observed in figure 18 above by MJC for the pro con slope variance and destructive and constructive feelings. Persons who disagreed with the need for war were more easily provoked into risk taking – against their own bias – by the experience of negative feelings than by assessment of arguments as illusory. Persons who agreed with the war also increased in risk taking at the lower categories of MJC by the experience of destructive feelings. Persons who were uncertain exhibited a more erratic pattern, but also increased in risk taking.

Figure 25 A, B & C: Portray a reduction of the slope variance for the interaction of beneficence & restrictive justice and the stage structure of the argument, moderated by the combined moderators, MJC & Attitude bias.

The equation: $\{Y = \beta_{00} + \beta_{01}*Attitude + \beta_{02}*MJC + \beta_{10}*Pro\text{-}con + \beta_{11}*Attitude*Pro\text{-}con + \beta_{12}*MJC*Pro\text{-}con + \beta_{20}*Stage + \beta_{21}*Attitude*Stage + \beta_{22}*MJC*Stage + \beta_{30}*Stage*Pro\text{-}con + \beta_{31}*Attitude*Stage*Pro\text{-}con + \beta_{32}*MJC*Stage*Pro\text{-}con + r_0 + r_1*Pro\text{-}con + r_2*Stage + r_3*Stage*Pro\text{-}con + \varepsilon\}$, yields Y= 28% reduction in variance for the Pro Con Slopes

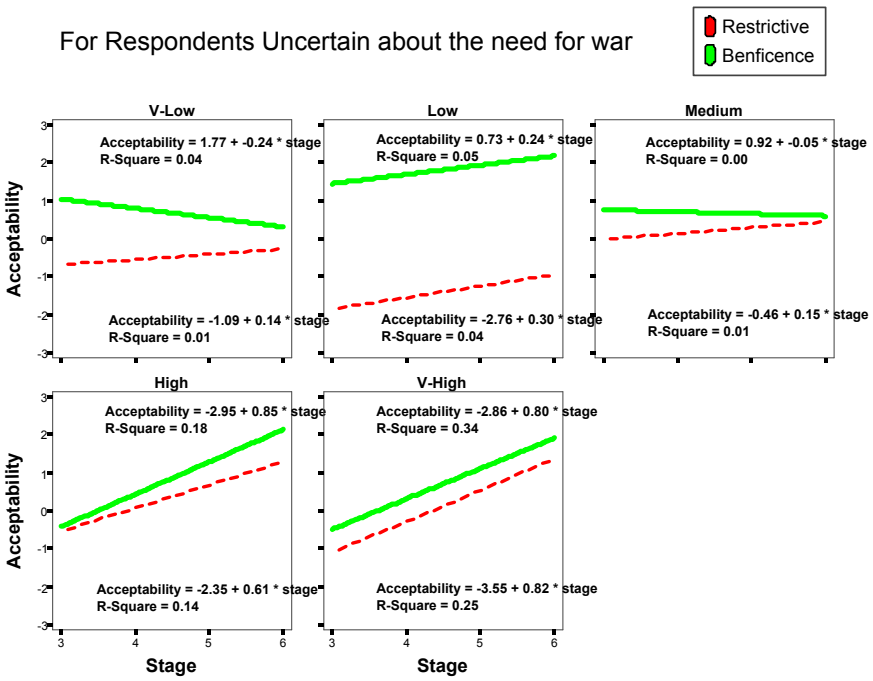
Following representations also correspond to figure 19 above. The reduction in pro con slope variance associated with stage structure of the argument by MJC is further moderated by attitude bias.

Pro Con by Stage (X-Axis) on acceptability (Y-Axis)



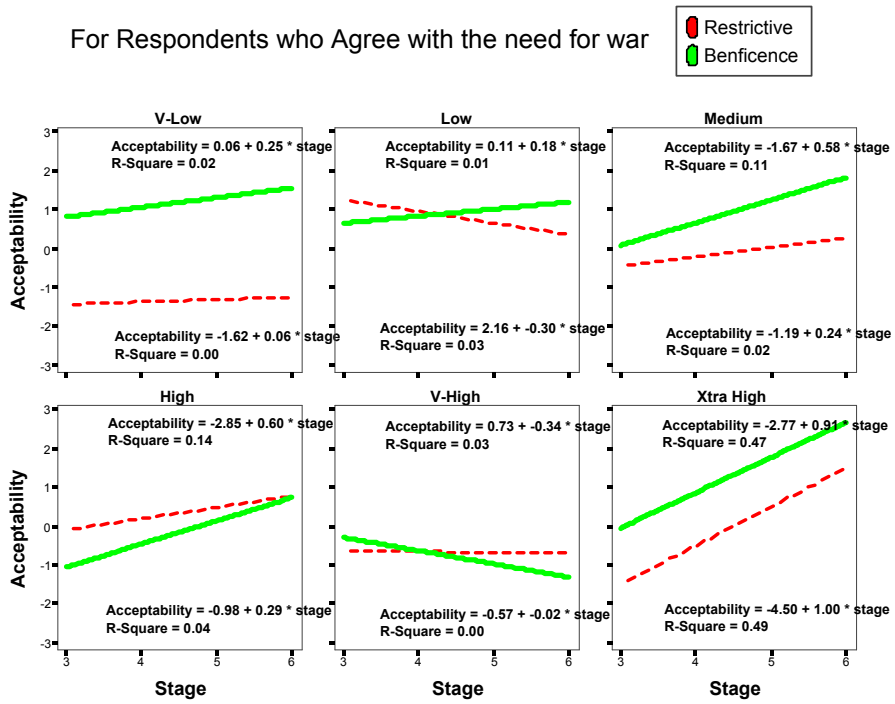
Persons who disagreed with the need for war exhibit lower intercepts and steeper slope inclines with higher categories of MJC; however, retaining the preference for arguments representing beneficence over restrictive justice considerations. They complied better with the expected criteria for hierarchical stages at higher categories of MJC.

Pro Con by Stage (X-Axis) on acceptability (Y-Axis)



Persons uncertain did not confirm the expectations based on stage theory except at the higher categories and perhaps in category *low*. The flattening or reversing of the stage slope contradicts hierarchical stage expectations. We observe a similar effect for persons who agreed with the need for war.

Pro Con by Stage (X-Axis) on acceptability (Y-Axis)

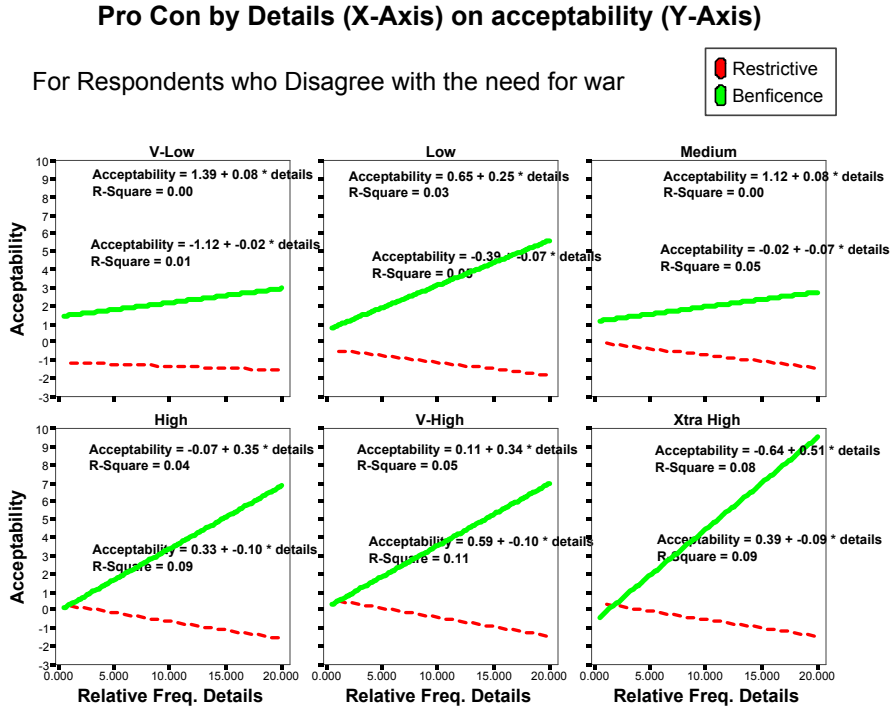


Persons who agreed also showed some consistency with stage theory, but some of the effects also contradict expectations based on it. Particularly in the middle frames for *low* & *very high* MJC where a mirroring effect is observable. In fact, the intercepts for the slopes at *V-high* are lower than at *Low* and slope for beneficence considerations is reversed from (+0.18) at *low* to (-0.34) at *V-high*, while the slope for restrictive considerations is flattened from *low* at (-0.30) to *V-high* at (-0.02).

Figure 26 A, B & C: Portray a reduction of the slope variance for the interaction of beneficence & restrictive justice and the frequency of de-escalation and escalation details in the argument, moderated by the combined moderators, MJC & Attitude bias.

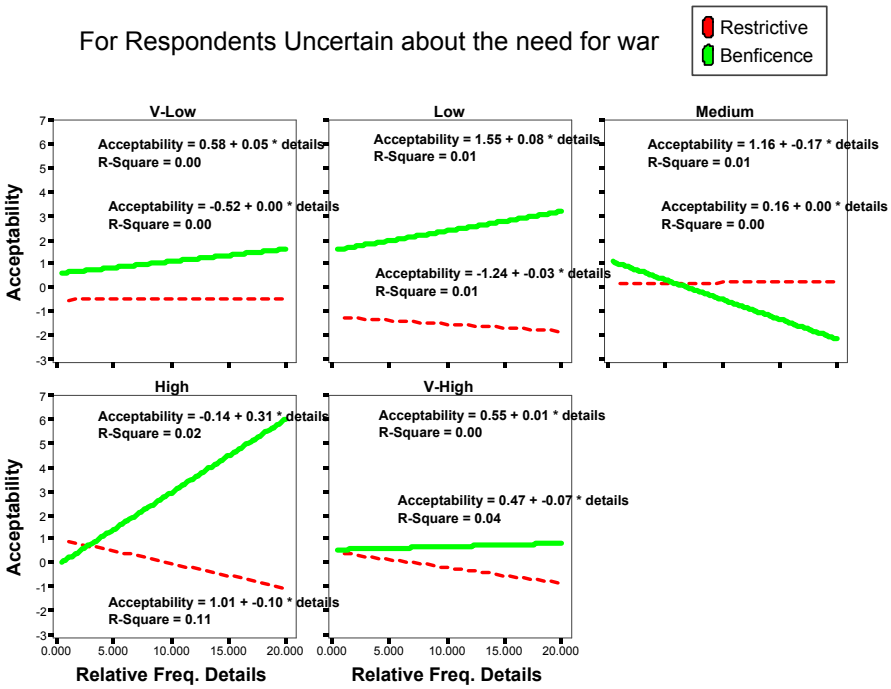
The equation {$Y = \beta_{00} + \beta_{01}$*Attitude $+ \beta_{02}$*MJC $+ \beta_{10}$*Pro-con $+ \beta_{11}$*Attitude*Pro-con $+ \beta_{12}$*MJC*Pro-con $+ \beta_{20}$*Details $+ \beta_{21}$*Attitude*Details $+ \beta_{22}$*MJC*Details $+ \beta_{30}$*Details*Pro-con $+ \beta_{31}$*Attitude*Details*Pro-con $+ \beta_{32}$*MJC*Details*Pro-con $+ r_0 + r_1$*Pro-con $+ r_2$*Details $+ r_3$*Details*Pro-con $+ \varepsilon$}, yields Y= 18% reduction in variance for Pro Con Slopes.

The following representation also corresponds to figure 20 above. The reduction in pro con slope variance associated with de-escalation and escalation details by MJC is further moderated by respondents attitude bias.

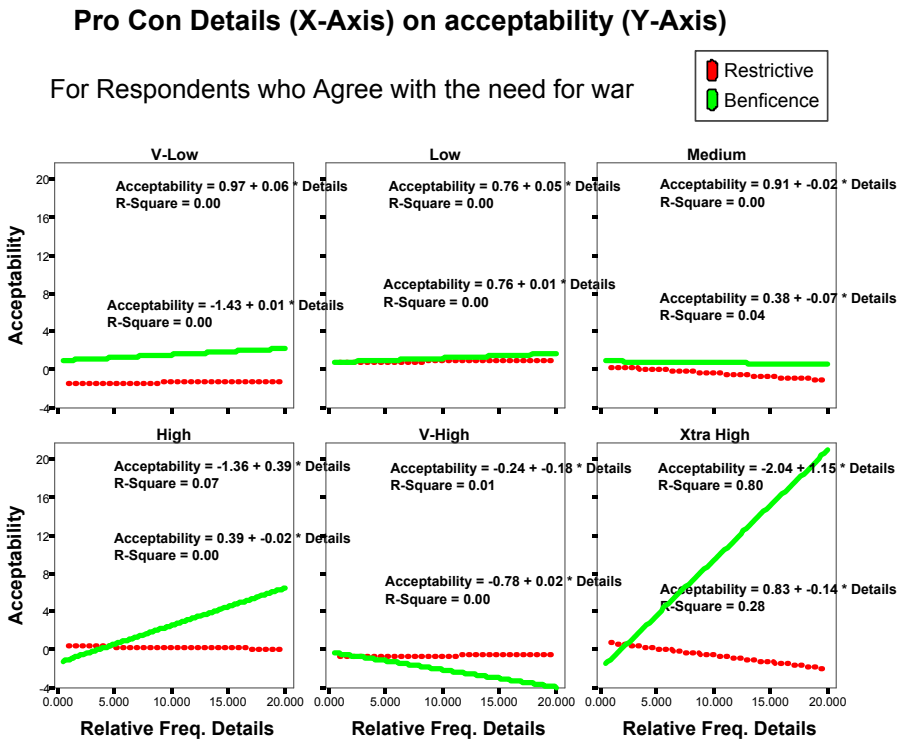


The preference for de-escalation over escalation details is more dramatic among persons who disagreed with the need for war. In fact, it seems to increase at higher categories of MJC

Pro Con by Details Illusory (X-Axis) on acceptability (Y-Axis)



Among persons who were uncertain, the slopes generally correspond with those of the larger group except for the slopes at category *medium*. The reversal of the de-escalation slope more radically represents the attitudinal preference for persons who agreed with the war.



Persons, who agreed with the war, flatten the slope for de-escalation details to correspond with the slope of escalation details; however, the slope for escalation details does not improve. Only at the highest category of MJC do we observe a pattern that corresponds with that of persons who disagreed.

4.8. MODERATION OF STAGE SLOPE VARIANCE

4.8.1. Stage Slope Variance Moderated by MJC

Figure 27: Portrays moderation of stage slope variance by MJC

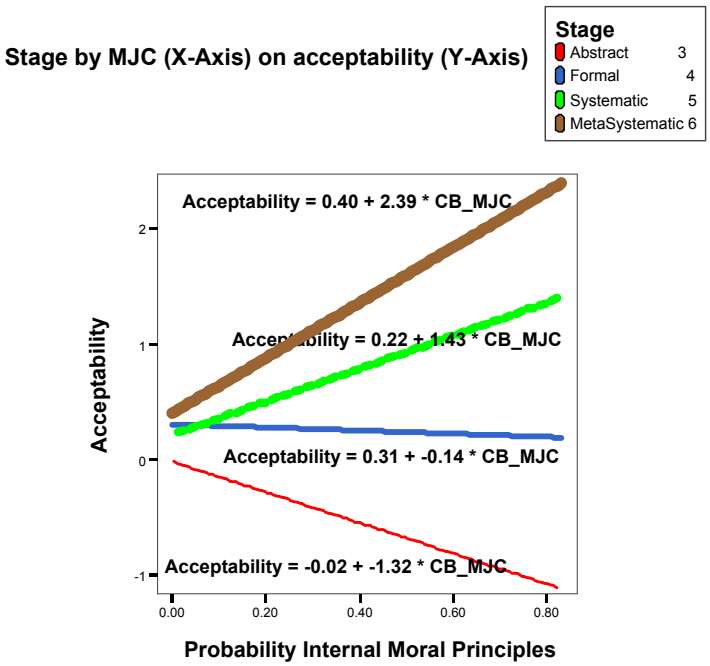
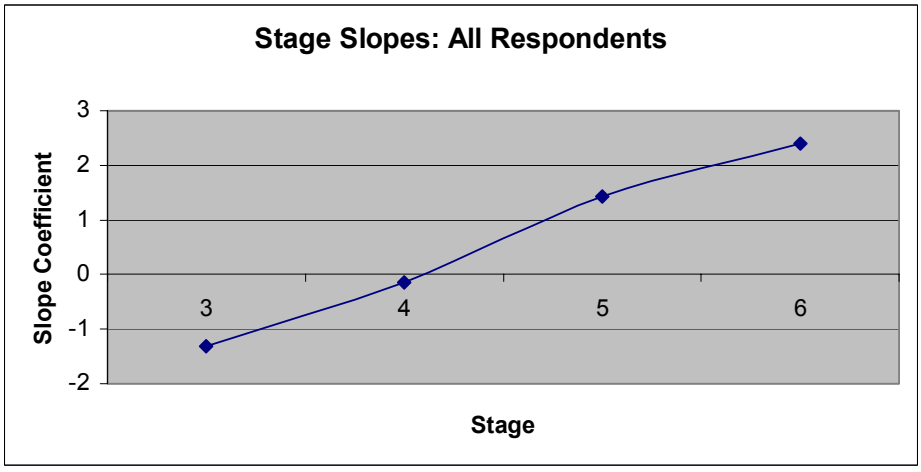


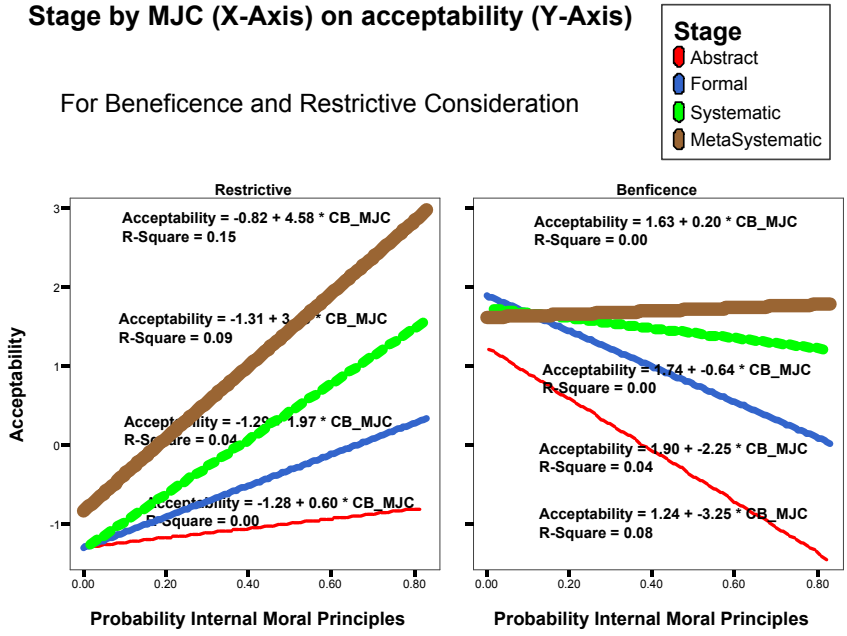
Figure 28: Shows the Stage slope Coefficients for combined Pro-war and Against-war considerations for all respondents, when moderated by MJC.



Increases in the Stage Slope Coefficients correspond with Stage increases. Conventional stages 3 & 4 have negative slopes. Post-conventional stages 5 & 6 have positive slopes

In Figures 29, 31 33, 35 and 37 below, all respondents are represented in the left panel responding to pro war arguments and in the right panel to arguments against the war. This regression lines represent arguments at stage 3, 4, 5 and 6 form thinnest to thickest respectively.

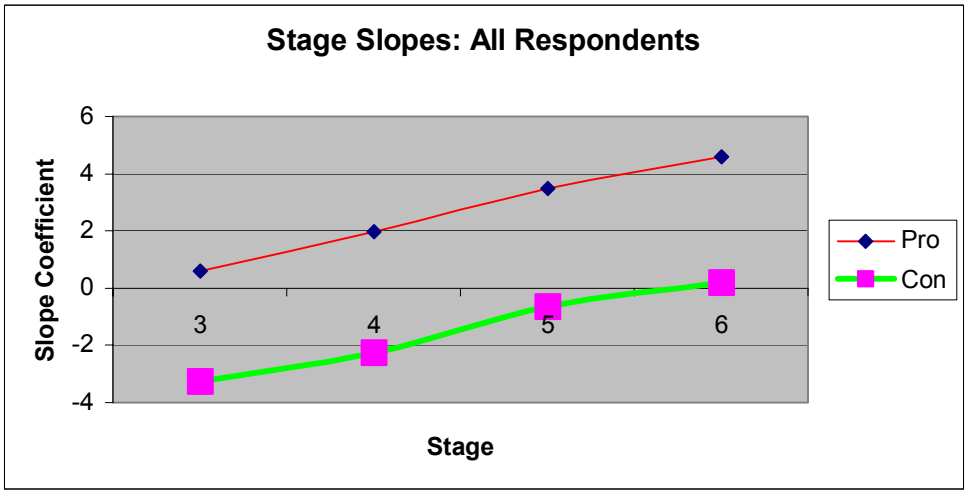
Figure 29: Portrays the moderation by MJC of the Stage slope variance for Beneficence and Restrictive Justice considerations through the equation: {$Y = \beta_{00} + \beta_{01}*MJC + \beta_{10}*Pro\text{-}con + \beta_{11}*MJC*Pro\text{-}con + \beta_{20}*Stage + \beta_{21}*MJC*Stage + r_0 + r_1*Pro\text{-}con + r_2*Stage + \varepsilon$}, where Y=45% of the stage slope variance for beneficence and restrictive justice.



The variance in the slopes for the stages representing respondents' acceptability based on argument structure for beneficence and restrictive considerations is moderated by a reduction of 45% in variance by respondents' capacity to rely on internal principles. The primary effect can be characterized by increasing differentiation among hierarchical stage criteria with increases in respondents' capacity to rely on internal moral principles. The second effect is that the stage slopes for pro-war restrictive considerations are positive. Even respondents' acceptance of lower stage reasoning increases with increases in MJC for pro-war arguments. Conversely, the stage slopes for against-war beneficence

considerations are negative. The highest reasoning for against war considerations is not negative. Respondents with lower MJC categorically over-weight beneficence consideration and under-weight restrictive considerations. As respondents' MJC increases this effect is reversed by under-weighting beneficence considerations and over-weighting Restrictive Justice considerations. The hierarchical stage sequence is upheld except for persons with lowest MJC. They tend to categorically reject all arguments representing restrictive considerations, but accept all arguments representing beneficence considerations and seem to confuse the stage sequence.

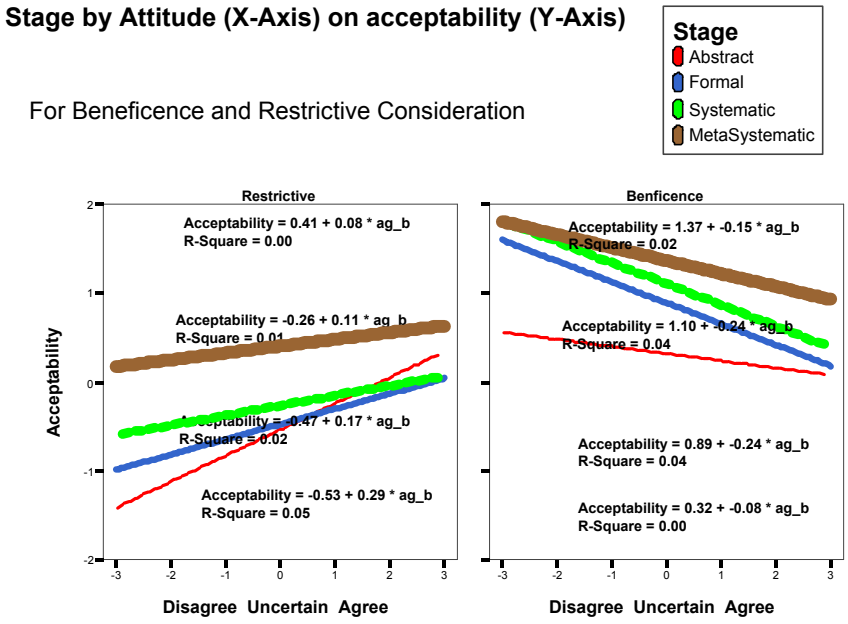
Figure 30: Shows the Stage slope Coefficients for Pro-war Vs Against-war considerations for all respondents, when moderated by MJC.



Increases in the Stage Slope Coefficients correspond with Stage increases. Pro-war arguments have positive slopes for all stages. Against-war arguments have negative slopes for stages 3, 4 & 5. Post-conventional stage 6 has a positive or no slope. Respondents are more emotionally conflicted by arguments against the war.

4.8.2. Stage Slope Variance Moderated by Attitude

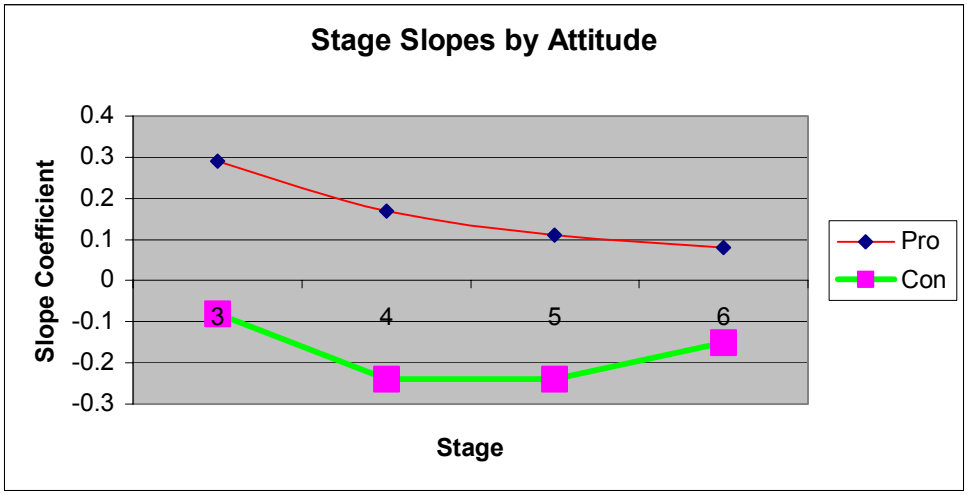
Figure 31 portrays the moderation by Attitude Bias of the Stage slope variance for Beneficence and Restrictive Justice considerations through the equation: {$Y = \beta_{00} + \beta_{01}$*Attitude e* $+ \beta_{10}$*Pro-con* $+ \beta_{11}$*Attitude*Pro-con* $+ \beta_{20}$*Stage* $+ \beta_{21}$*Attitude*Stage* $+ r_0 + r_1$*Pro-con+* r_2*Stage* $+ \varepsilon$}, where Y=13% of the stage slope variance for beneficence and restrictive justice.



The variance in the slopes for the stages representing respondents' acceptability based on argument structure for beneficence and restrictive considerations is moderated by a reduction of 13% in variance by respondents' attitude bias in favor or against the Iraq war. The primary effect observable is a tendency for persons who agreed with the war to lower the acceptability of beneficence considerations to match the lower acceptability of restrictive considerations. Correspondingly, persons who disagreed with the war showed a difference between higher acceptance of beneficence considerations and lower acceptance of restrictive considerations. An interesting effect is that the task of engaging in escalation can only be addressed by arguments with meta-systematic reasoning at the highest post-conventional stage. Other pro-arguments are not accepted irrespective of respondents attitude about the war. The general sequence of stages is upheld for beneficence and restrictive considerations except for a tendency of persons who agreed to

accept arguments at the lower abstract stage in favor of their own position and a tendency by persons who disagreed to confuse systematic and meta-systematic reasoning.

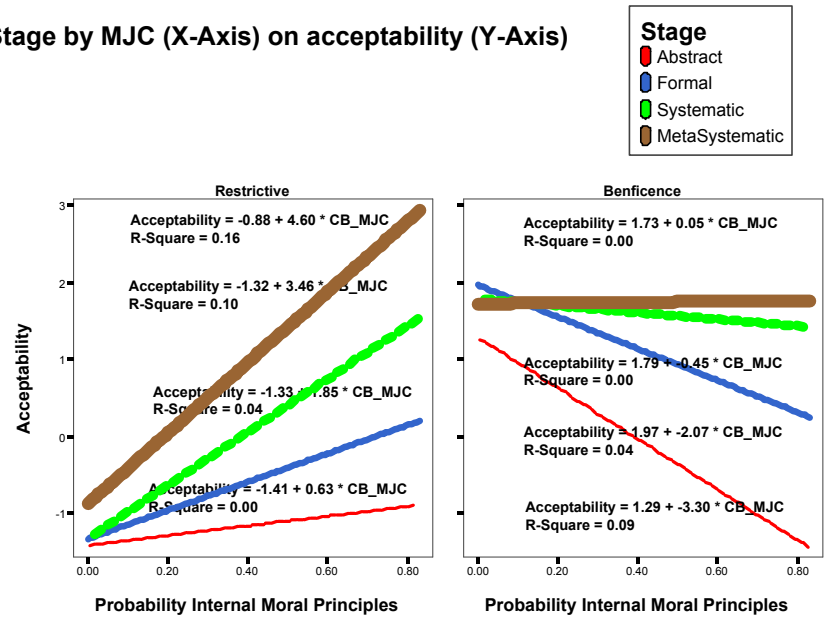
Figure 32: Shows the Stage slope Coefficients for Pro-war Vs Against-war considerations for all respondents, when Attitude Bias.



4.8.3.Stage Slope Variance Moderated by MJC & Attitude

The Stage slope variance for Beneficence and Restrictive Justice considerations through the equation: {$Y = \beta_{00} + \beta_{01}$*Attitude $+ \beta_{02}$*MJC $+ \beta_{10}$*Pro-con $+ \beta_{11}$*Attitude*Pro-con $+ \beta_{12}$*MJC*Pro-con $+ \beta_{20}$*Stage $+ \beta_{21}$*Attitude*Stage $+ \beta_{22}$*MJC*Stage $+ \beta_{30}$*Stage*Pro-con $+ \beta_{31}$*Attitude*Stage*Pro-con $+ \beta_{32}$*MJC*Stage*Pro-con $+ r_0 + r_1$*Pro-con $+ r_2$*Stage $+ r_3$*Stage*Pro-con $+ \varepsilon$}, where Y= 57% reduction in Stage Slope variance for beneficence and restrictive justice considerations by the combined moderators: MJC & Attitude.

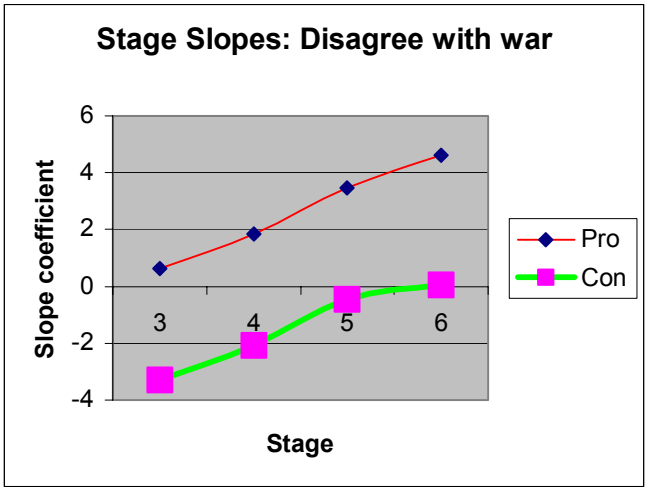
Figure 33: portrays the moderation of stage slope variance by MJC & Attitude Bias for persons who disagreed with the need for war.



For Beneficence and Restrictive For Persons Who Disagree With need for War

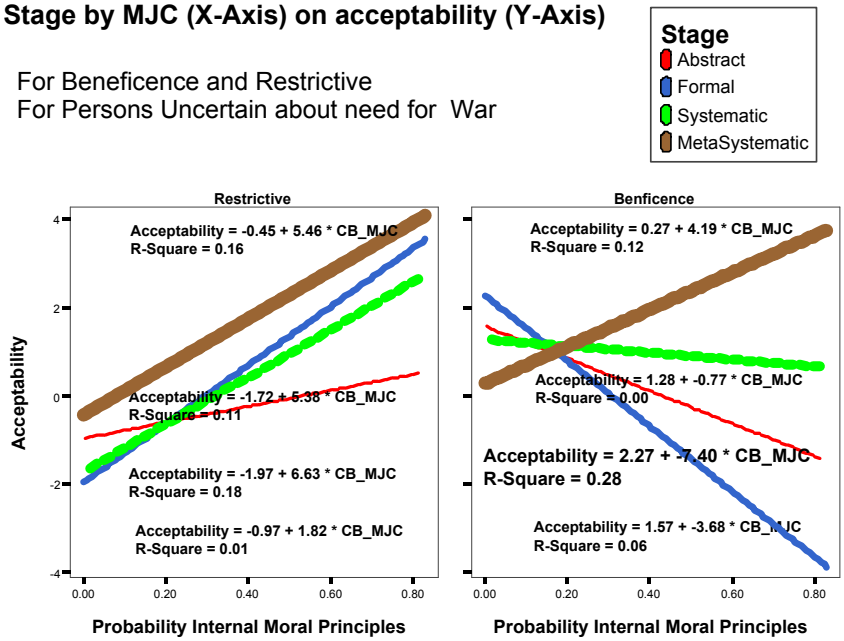
The pattern for persons who disagreed with the war resembles the pattern of the entire sample.

Figure 34: Shows the Stage slope Coefficients for Pro-war and Against-war considerations for respondents, who disagreed with the need for war, when moderated by MJC.



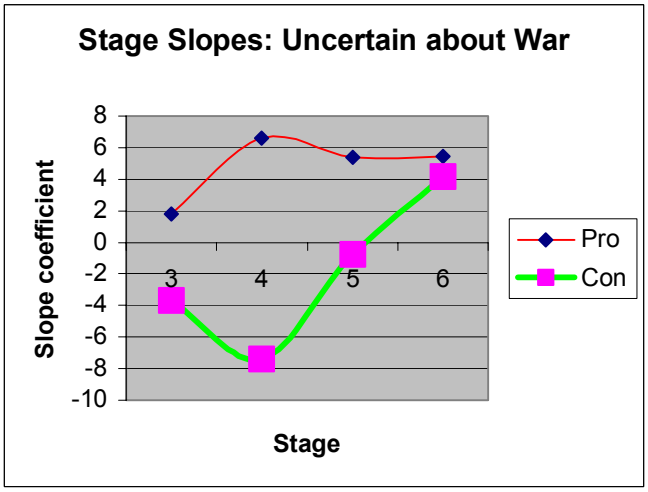
Increases in the Stage Slope Coefficients correspond with Stage increases. Pro-war arguments have positive slopes for all stages. Against-war arguments have negative slopes for stages 3, 4 & 5. Post-conventional stage 6 has a positive or no slope. Respondents who disagree with the need for war are more conflicted by arguments against the war, which are consistent with their own position. They are more cognitively in agreement with pro-war arguments, which are inconsistent with their own position.

Figure 35: Portrays the moderation of stage slope variance by MJC & Attitude Bias for persons who were uncertain about the need for war.



The pattern for persons uncertain about the need for war exhibits reversal in stage sequence of stages irrespective of respondents' capacity to rely on internal principles.

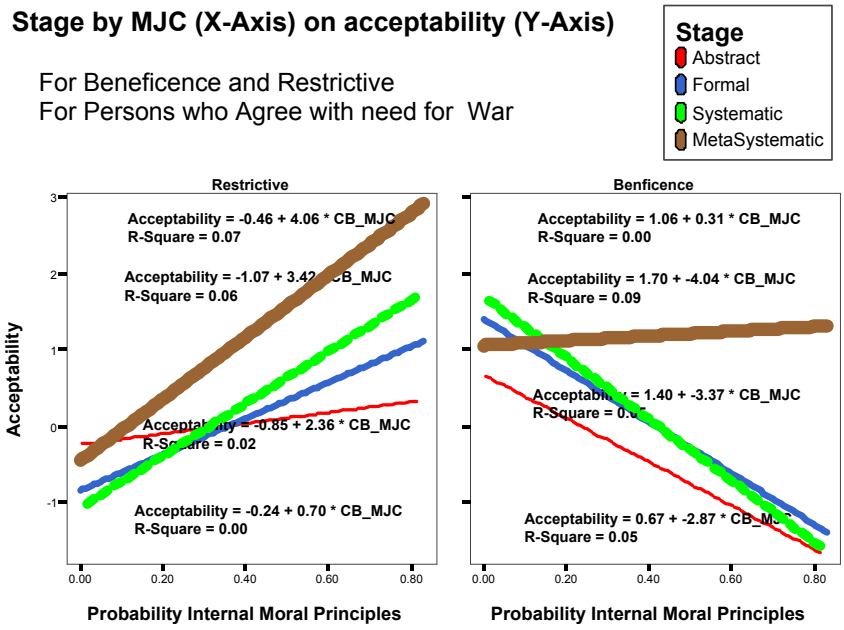
Figure 36: Shows the Stage slope Coefficients for Pro-war and Against-war considerations for respondents, who were uncertain about the need for war, when moderated by MJC.



Increases in the Stage Slope Coefficients only partly correspond with Stage increases. Pro-war arguments have positive slopes for all stages. Against-war arguments have

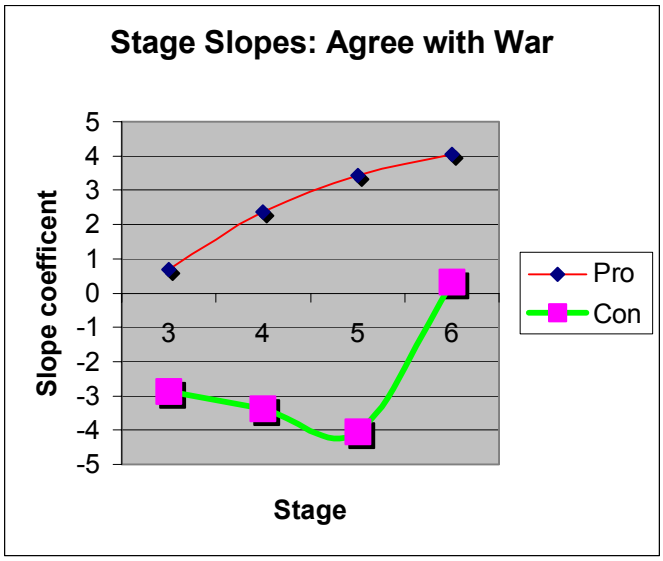
negative slopes for stages 3, 4 & 5. Post-conventional stage 6 has a positive slope. Formal stage 4 increases above 3, 5 & 6 for pro-war considerations, but decreases below 3, 5 & 6 for against-war considerations. Respondents uncertain about the need for war are more in conflict with formal pro-war arguments, although they are in conflict with all pro-war arguments, except for stage 6 arguments at post-conventional level.

Figure 37: Portrays the moderation of stage slope variance by MJC & Attitude Bias for persons who agreed with the need for war.



The pattern for persons who agreed with the need for war exhibits a reversal effect moderated by MJC. Persons with higher MJC over endowed arguments representing restrictive considerations and under-weighted arguments representing beneficence considerations; however, persons with lower MJC reversed this effect.

Figure 38: Shows the Stage slope Coefficients for Pro-war and Against-war considerations for respondents, who agreed with the need for war, when moderated by MJC.



Increases in the Stage Slope Coefficients correspond with Stage increases for pro-war considerations. Pro-war arguments have positive slopes for all stages. Against-war arguments have negative slopes for stages 3, 4 & 5, reflecting decreases in Stage slope coefficients corresponding with increases in Stage. However, post-conventional stage 6 increases and has a positive or no slope.

CHAPTER 5

DISCUSSION OF RESULTS WITH REFERENCE TO THEORY AND HYPOTHESIS

This chapter will discuss the results described in the previous chapter. The proportion reduction in error will be discussed individually for pro and con, subjective validity, subjective comfort, sensitivity to stage and use of details. Then pro and con will be combined with each of the other four within subject factors for main and interaction effects. Finally, relevant and significant moderations by MJC and/or attitude bias will be discussed relative to the four pairs of factors.

This investigation examined factors and heuristics associated with agents' competence in resolving the dilemma of the need for the Iraq war. It examined respondents' acceptance of beneficence considerations as risk-aversive against the initial risk of the war and restrictive justice considerations as a risk-aversive strategy supporting the need for war against greater risks. This investigation confirmed expectations consistent with theoretical formulations in the research design. It confirmed the theoretical validity of differences in moral judgment competence as defined by sensitivity to stage and the logic and the measures of the MJT using a similarly structured experimental questionnaire. The effect for each of the factor pairs confirmed expected value formulations based on rational theory. Expectations based on subjective validity, subjective comfort and sensitivity are confirmed. It also validates expectations based on content for the effect of escalation and de-escalation details in conflict theory. Distinctions between the moderated effects by respondents' attitude or belief bias and respondents' capacity to rely on internal principles found two domains. Prospect theory is shown to explain unexpected variations produced by the moderation of each pair by MJC.

The C index is a measure of respondents' individual moral judgment competence and a factor consistent with the theoretical formulations of the research design embedded in the experimental questionnaire and in Lind's MJT. Respondents' attitude and belief bias on the need for the war derives from self-reporting. Attitude represents interferences based on stereotypical, automatic intuitive judgments. Competence represents integrated

reasoning that coordinates cognitive and affective aspects. Attitude and competence served as moderators for the slope variance on the effects of latent self-reflective validity and comfort heuristics, as well as more manifest features, escalation and de-escalation details and the stage structure of the arguments themselves.

Respondents' capacity to rely on internal moral principles was relevant in moderating the effects by latent self-reflective heuristics for validity and comfort, while moderation by attitude was significant but not relevant. Both MJC and attitude bias were relevant in moderating the effects by more manifest features such as details and the stage structure. This implies that reflection enhances cognitive reasoning, while external stimuli increase the dissonance between reasoning and attitude bias. The first reduces the relevance of belief bias in decisions, while the second invokes bias in the process. Thus, decisions moderated by attitude reflect greater risk-aversion, while choices moderated by moral judgment competence reflect greater risk taking.

Logically persons who rely more on reasoning deal with more options and may be more likely to take risks more frequently, while persons who rely on attitude may tend to bet on the sure thing. A discussion of habit is a relatively different matter beyond the scope of this study; however, we have evidence to support the theory that attitude bias and competence represent two distinct, but inseparable aspects in decision-making (See, figure 13).

Lind (2005) defines three properties that represent the theoretical validity of differences in moral judgment competence. He maintains that they are very well confirmed by human moral judgment behavior. First, the moral orientation of the arguments, scored using HCSS, form a *quasi-simplex* structure i.e. the means for adjacent stages are more similar than for non-adjacent stages. Second, constructs of moral judgment form a *hierarchical stage sequence* positively correlated to respondents' sensitivity to differences in stage, i.e. preference for arguments according to stage. Third, *parallelism* between cognitive and affective aspects, i.e., inconsistency between an argument's position and respondent's attitude induces resistance, while consistency promotes acceptance. These three properties demonstrate that the basic structure of the MJT and

its theoretical validity is consistent with current knowledge on the nature of moral judgment behavior (figures 11, 19 & 24). The steepness in a positive correlation between hierarchical stages and the degree to which they are accepted represents one aspect of higher moral judgment competence. Respondents at higher levels of MJC rejected lower stages more and accepted higher stages more than respondents at lower MJC. The second aspect is the difference in the parallel slope means. Smaller mean differences between pro and con slopes and steeper slopes represent higher competence. Larger mean differences between pro and con slopes and shallower slopes represent lower competence (figure 19). Conceptually this means that greater sensitivity to stage reflects better integration of stage criteria, when independent of argument's position.

Dependence on arguments' position reflects bias, which reduces the effectiveness of stage criteria.

5.1. EXPECTATIONS BASED ON RATIONAL THEORY AND VARIATIONS

The Individual factor effects confirmed expected value formulation based on rational theory.

Table 9: Depicts the proportion reduction of error accounted for by within-subject factors: realistic perceptions, feelings, stage details, and beneficence or restrictive considerations.

Factor	Proportion Reduction of Error			
	Random Intercept	Single Slope	With Pro & Con	
			Main Effects	Interaction Effect
Illusory or Realistic	.44	.47	.60	.61
D or C Feeling	.38	.42	.56	.57
Stage	.06	.06	.46	.46
D or E Details	.10	.10	.39	.40
Pro Con	.23	.37		

For each factor on the left, the columns represent: the proportion reduction in error accounted for by a random intercept, single slope and for the slopes produced by the main and interaction effects of first four factors and the contribution of beneficence and restrictive considerations. The contribution pro and con improves the Main and Interaction effects for stage by 40% and details by 29% & 30%. The contribution yields a less radical, but not trivial increase on the Main and Interaction effects for illusory or realistic perceptions by 13 & 14%, and for destructive or constructive feelings by 14 & 15%.

The relationship between beneficence or restrictive justice considerations and respondents' acceptance of arguments represented by whether the argument is in favor or against the Iraq war accounts for 23% of the proportion reduction of error for the random intercept variance and 37% of the single slope variance.

Since respondents knew which arguments were pro and which were con, this is a keenly obvious factor. Pro arguments were presented first and con arguments second with the rational expectation that good peaceful relations would be preferred over difficult conflicted relations. So, that arguments employing beneficence principles ought to be better accepted, than arguments employing restrictive justice considerations. This effect is observed by the Main and Interaction effects of pro and con slopes for the heuristics of validity in figure 9 and comfort in figure 10. It is also observed in the more latent argument qualities for stage in figure 11 and details in figure 12.

In Table 9, the effects of escalation and de-escalation details and of the stage of the argument are moderated by the aim of the argument better than subjective perceptions of argument as realistic or illusory, or emotions evoked by the argument. This suggests that respondents only mildly perceived arguments against the war as more realistic and as evoking more constructive feelings than pro-arguments. The effect on de-escalation details is much stronger than the effect on escalation details and the effect on stage is stronger for con-arguments than for pro-arguments.

Estimates of validity and comfort in dealing with real dilemmas involving threats to a person's sense of security invoke higher levels of fear and anxiety than hypothetical dilemmas.

5.1.1. Variations on rational theory

Illusory escalation arguments, promoting restrictions in justice, are preferred over corresponding de-escalation arguments. Respondents preferred realistic de-escalation details over corresponding escalation details, when they perceived arguments as realistic

or as evoking constructive feelings. Risk taking emerges under greater uncertainty and risk aversion under conditions of greater certainty.

In figures 17 and 18 above the effects of perceived validity and comfort can be explained by rational utility theory for persons at lower categories of moral judgment competence. However, formulations of risk-taking from the domain of loss and risk-aversion from the domain of gain in prospect theory explain better the behavior of persons with higher MJC. Logically illusory arguments represent the domain of loss by reducing credible information. Arguments in favor of the war stress that there are potential risks of tolerance out of concern for beneficence. In a similar logic, realistic arguments represent the domain of gain by increasing credible information. Arguments against the war stress that the potential risks in restricting justice must be averted. These variations are explained better by prospect theory than by rational theory: They confirm risk-taking from the domain of loss and risk aversion from the domain of gain.

Moderations by respondents' capacity to rely on internal principles and/or of respondents' attitude bias confirm some expectations based on rational theory. However, arguments' perceived validity and comfort demonstrate unexpected variations that are explained better by formulations in prospect theory.

5.1.2. Illusory or Realistic perceptions:

Arguments perceived to be realistic are better acceptable than arguments perceived to be less realistic and more illusory (figures 9, 17, 23).

Respondents' perception of the main point of an argument as realistic or illusory provides an estimate of the subjective validity heuristics for the argument. The relationship between respondents' subjective perceptions of arguments' validity and their acceptance accounts for 44% of the proportion reduction of error for the random intercept variance and 47% of the single slope variance (table 9). With the effect of beneficence and restrictive justice considerations, validity accounts for 60% of the proportion reduction in error for the main effects and 61% for the interactions. Since, realistic information is helpful and encouraging; while illusory information is provocative and disappointing,

rational theory suggests that arguments perceived as realistic are better accepted over arguments perceived as illusory. Figure 9 above confirms this expectation based on rational theory. Respondents' acceptance of arguments correlates positively with their subjective perceptions of validity. Arguments perceived as realistic are accepted. Respondents rejected arguments perceived as illusory.

5.1.3. Destructive or Constructive Feelings:

Respondents accepted arguments that evoked constructive feelings better than arguments that evoked less constructive and more destructive feelings (figures 10, 18 & 24). Respondents' experience of the main point of an argument as evoking either constructive or destructive feelings provides an estimate of the subjective comfort heuristics for the argument.

The relationship between respondents' subjective comfort and their acceptance of the arguments, accounts for 38% of the proportion reduction of error for the random intercept variance (table 9) and 42% of the slope variance. With the effect of beneficence and restrictive justice considerations, they account for 56% of the PRE for the main effects and 57% for the interaction effects.

Constructive feelings are comfortable and encouraging, while destructive feelings are provocative and discomforting. Rational theory suggests that arguments evoking subjective comfort should logically be accepted over arguments evoking subjective discomfort. Figure 10 confirms this expectation based on rational theory. Respondents' acceptance of arguments correlated positively with their subjective experience of comfort. They accepted arguments evoking constructive feelings and rejected arguments evoking destructive feelings.

5.1.4. The Quality of the Structure of the argument is depicted by its Stage properties.

A relationship exists between the stage of the arguments and respondents' acceptance of the arguments. Respondents accepted arguments scored at post conventional stages better than arguments scored at conventional stages. Conflict resolution requires post-

conventional logic. It is not a simple task and is not easily addressed by conventional reasoning.

The stage of an argument represents hierarchical properties in the structure used in developing the focus of the argument.

The relationship between respondents' sensitivity to stage differences and their acceptance of arguments accounts for only 6% of the proportion reduction of error for the random intercept variance (table 9) and for the slope variance.

However, the combination of stage with the effect of beneficence and restrictive justice considerations accounts for 46% of the PRE for the main effects and for the interactions effects. Respondents' sensitivity to stage criteria is relevant only in distinguishing between beneficent and restrictive justice considerations, according to our 10% criteria,

5.1.5. The frequency of de-escalation details in con-arguments and escalation details in pro arguments.

There is relationship between the relative frequency of the escalation / de-escalation details in arguments and respondents' acceptance of arguments.

The effect of escalation and de-escalation detail frequency in arguments validates expectations based on conflict theory. Escalation details serve to polarize a conflict. They evoke resistance against information processing and minimize the principled value of discourse. De-escalation details serve to promote reasoning and receptivity. They maximize the value of principles and use of information (figures 20 & 26).

This effect by escalation or de-escalation details on respondents' accepting or rejecting arguments is related to attitude bias. Rationally they will accept details consistent with their own attitude bias, but filter out inconsistent details. Respondents did not competently integrate increases in the frequency of escalation details, but they increasingly integrated increases in de-escalation details.

The relative frequency of de-escalation and escalation details is a measure of the emphasis in the content of the argument. This factor accounts for 10% of the proportion reduction of error for the random intercept variance (table 9) and for the slope variance. With the effect of beneficence and restrictive justice considerations, it accounts for 39% of the PRE for the main effects and 40% for the interactions. It validates expectations based on content for the effect of escalation and de-escalation details in conflict theory.

5.2. Moderated effects of Moral Judgment Competence and Belief Bias

Moderated effect by moral judgment competence confirmed heuristics postulated by prospect theory. It compares the moderated effects of Attitude and Moral Judgment competence

Table 10 Compares the moderation of subjective validity heuristics by MJC, attitude bias and their interaction.

Illusory or Realistic perceptions	PRE	Moderation by MJC	Attitude	MJC &Attitude
Single Slope	.47			
Intercept		.00	.04	.04
Realistic Slope		.07	.00	.07
Main Effects with Pro Con	.60			
Intercept		.004	.02	.02
Realistic Slope		.04	.04	.09
PC Slope		.20 *	.08	.26 *
Interactions with Pro Con	.61			
Intercept		.01	.04	.04
Realistic Slope		.04	.04	.08
PC Slope		.19 *	.08	.26 *
PC*Realistic		.02	.04	.06

Although, arguments subjectively perceived as realistic were better acceptable than arguments perceived to be illusory, respondents with greater capacity to rely on internal principles rated arguments overall as less realistic than those with lower in capacity.

Similarly arguments felt to evoke constructive feelings were better acceptable than those felt to evoke destructive feelings. Respondents with lower MJC reported stronger emotional experiences than did respondents with higher MJC. Respondents' capacity to rely on internal principles alone moderates the slope variance for beneficence and restrictive considerations by a reduction of 20%for main effects and by 19% for the

interaction effects. Using Cohen's 10% criteria for relevance attitude bias has a spurious effect because alone it moderates the slope variance by only 8%, while together with MJC they moderate by 26%.

In figure 17, a variation not accountable by rational theory is observed. MJC moderates the effect of the argument's heuristic validity on respondent's acceptance. A risk-aversion cut-off emerges. Respondents preferred restrictive considerations to beneficence considerations when they perceived both pro and con arguments as illusory or invalid. Respondents rejected con arguments more than pro arguments. MJC and attitude jointly moderate this effect further in figure *22*.

An assumption of risk moderates the absolute value of beneficence over restrictive considerations. When both pro and con arguments seem illusory, moral justification of restrictive justice evokes risk taking by preference for pro-arguments. Conversely, respondents accepted con-arguments better depicting risk aversion, when perceived as realistic. Thus, respondents more likely to rely on internal moral principles display a pattern of risk taking from the domain of loss and risk aversion from the domain of gain

Table 11: Compares the moderation of comfort heuristic by MJC, attitude bias and their interaction.

Destructive or Constructive Feelings	PRE	Moderation by		
		MJC	Attitude	MJC &Attitude
Single Slope	.42			
Intercept		.00	.00	.00
Feeling Slope		.09	.00	.10 *
Main Effects with Pro Con	.56			
Intercept		.03	.001	.03
Feeling Slope		.12 *	.04	.17 *
PC Slope		.20*	.07	.27 *
Interactions with Pro Con	.57			
Intercept		.03	.00	.03
Feeling Slope		.09	.06	.15 *
PC Slope		.21 *	.08	.29 *
PC***Feeling**		.06	.00	.04

Arguments felt to evoke constructive feelings were better acceptable than those felt to evoke destructive feelings. Respondents with lower MJC reported stronger emotional experiences than did respondents with higher MJC.

Again, we find that respondents' capacity to rely on internal principles alone moderates the slope variance for beneficence and restrictive considerations by 20% for main effects and by 21% for interaction effects. Using Cohen's 10% criteria for relevance attitude bias has a spurious effect since alone it moderates the slope variance by only 8%, while together with MJC they moderate by 27% for the main effects and 29% for the interaction. MJC improved the effect of the slope variance for destructive and constructive feelings by 12% for the main effects. The combined moderators also improve the slope variance for the destructive and constructive feeling by 17% for the main effects and 15% for the interaction effect

In figure 18, a risk-aversion cut-off emerges for the effect of the argument's heuristic comfort when moderated by MJC. Respondents accept pro arguments better from the domain of loss i.e., when arguments evoke discomfort; they reject con arguments more than pro arguments. MJC and attitude moderated this effect is further in figure 23.

An assumption of risk moderates the absolute value of beneficence over restrictive considerations. When both, pro and con of arguments, evoke destructive feelings, moral justification promotes risk taking by preference for pro-arguments or restrictive justice considerations.

Respondents' subjective validity and comfort associated with the arguments, corresponds with expected preferences for beneficence over restrictive justice considerations, realistic over illusory and constructive over destructive feelings. However, respondents' reliance on internal moral principles introduces a variation better accounted for by risk-aversion from the domain of gain and risk-taking from the domain of loss (figures, 17 and 18).

Table 12 compares the moderation of stage sensitivity by MJC, attitude bias and their interaction.

Stage of the Structure	PRE	Moderation by		
		MJC	Attitude	MJC &Attitude
Single Slope	.06			
Intercept		.00	.00	.00
Stage Slope		.00	.11*	.00
Main Effects with Pro Con	.46			
Intercept		.01	.00	.01
Stage Slope		.45*	.13*	.57*
PC Slope		.18 *	.10*	.28*
Interactions with Pro Con	.46			
Intercept		.01	.00	.01
Stage Slope		.45*	.13*	.57*
PC Slope		.18*	.10*	.28*
PC*Stage		.00	.07	.00

Unlike the effects for the heuristics of validity and comfort representing respondents own self-assessment, sensitivity to hierarchical properties in the arguments is moderated both by respondents' capacity to rely on internal principles and by respondents' attitude bias. Attitude alone moderates the single stage slope variance by 11%. Attitude bias moderates the slope variance for beneficence and restrictive considerations by a 10% reduction in the stage slope variance for main effects and interaction effects. It also moderates the stage variance by 13% for both main and interaction effects. MJC moderates the slope variance for beneficence and restrictive justice considerations by 18% for main and interaction effects. It also moderates the stage slope variance by a reduction of 45% for main and interaction effects. The reduction in variance moderated by MJC and attitude for both main and interaction effects is the sum of their individual effects. This means that MJC and attitude bias represent two distinct but inseparable aspects in decision-making. Attitude and moral judgment competence moderate the effect by stage independently and in combination.

MJC however was not relevant in moderating the stage variance independent of beneficence and restrictive considerations. This lends support to the dual aspect theory in moral judgment competence and to the hypothesis that competence is only valid within context, but not discernable outside of context. Since, MJC is based on respondents' sensitivity to stage differences, a 45% reduction in the stage slope variance represents the probability that the entire sample relied on their sensitivity to stage criteria in accepting or rejecting arguments.

Using Cohen's 10% criteria for relevance attitude bias and MJC have a complimentary relationship rather than a spurious effect since alone each moderates a unique reduction of the slope variances. Thus, respondents were more effective when they combined their gut impressions based on their attitude with thinking and reasoning in considering differences among the arguments. This supports the theory that competence requires the integration of two domains, gut intuition and strong reasoning.

Figure 19, depicts respondents' acceptance of pro and con arguments relative to their sensitivity to stage differences and their capacity to rely on internal moral principles. This moderation is depicted in figure 22 for attitude and in figures 25 A, B & C, for MJC and attitude, relative to stage sensitivity.

In figure 25 C, respondents who agreed with the need for war reversed the general preference for beneficence over restrictive justice considerations. Some might argue that lower stage arguments in favor of the war are as good as higher stage arguments against the war and better than lower stage arguments against the war. Others might argue that the arguments against the war are generally stronger than the arguments in favor of the war. Still others might argue that the higher stage arguments in favor of the war are better than higher stage arguments against the war, while lower stage arguments against the war are better than lower stage arguments in favor of the war. Finally others agree with the larger group who maintain that arguments representing beneficence considerations are better than arguments representing restrictive consideration with the following qualification: Respondents relying more strongly on internal moral principles accepted high stage arguments in favor of the war better than lower stage arguments against the war. These respondents confirm theoretical expectations based on stage theory, that better structured arguments are simply better acceptable than otherwise, independent of context.

Table 13 compares the moderation of detail frequency by MJC, attitude bias and their interaction.

De-escalation or escalation	PRE	Moderation by		
		MJC	Attitude	MJC &Attitude
Single Slope	.10			
Intercept		.03	.00	.02
Detail Slope		.50 *	.64*	.86 *
Main Effects with Pro Con	.39			
Intercept		.01	.01	.01
Detail Slope		.00	.13 *	.00
PC Slope		.24 *	.09	.33 *
Interactions with Pro Con	.40			
Intercept		.07	.01	.08
Detail Slope		.00	.14 *	.00
PC Slope		.07	.11 *	.18 *
PC*Detail		.00	.22 *	.00

The effect of increasing details in the arguments is moderated both by respondents' capacity to rely on internal principles and by respondents' attitude bias. Attitude alone moderates the single detail slope variance by 64%, by 13% for the main effects and by 14% for the interactions. Attitude also moderates the pro and con slope variance by a reduction of 11% for the interaction effect. Attitude bias also moderates the interaction slope variance for details & Pro Con by 22%. MJC moderates the details slope variance by 50% for the single effects and the slope for pro and con by 24% for main effects. Combined MJC and attitude moderated the single detail slope variance by a reduction of 86%, the pro con slope by 33% for the main effects and by 18% for the interaction effects.

We find no evidence of spurious effects in the relevance of attitude bias and MJC. Attitude seems to moderate a unique reduction of the details slope variance and the interaction slope for pro con and details. Since 87.7% of respondents' disagreed with the need for war, the effect of increasing details seems to reflect expectation based on attitude bias. As respondents' MJC increased, increases in de-escalation details were accepted better, but increases in escalation details did not improve acceptance.

The effect of escalation and de-escalation details is moderated in figure 20 by MJC, in figure 21 by attitude bias and in figure 26 A, B & C by MJC and attitude.

The effect of the frequency of de-escalation and escalation details seems better moderated by respondents' attitude than by respondents' capacity to rely on internal principles. This effect can be characterized by increasing acceptance of de-escalation details and non-acceptance of escalation details. However, persons with higher MJC portrayed this effect even when the details were inconsistent with their own attitude. In 26 C, persons who agreed with the need for war collapsed the beneficence slope, but did not increase the restrictive slope. As if to say, the details in our arguments are not very useful, but neither are the details in yours, so there.

5.2.1. Summary of Moderated effects

Responses to details are better moderated by attitude bias, than by MJC. Stage sensitivity is moderated better by MJC than by attitude bias. Validity and comfort heuristics account for more PRE than details or stage sensitivity and are moderated only by MJC. Thus judging an argument as illusory or realistic represents a subjective perception of validity, while judging an argument to evoke destructive or constructive feelings represents a subjective experience of comfort. The pro and con slope variance for these factors was moderated by MJC. The behavior of respondents with lower MJC was explained using rational theory. Variations by respondents with higher MJC were explained better by formulations in prospect theory than by rational theory.

Respondents at higher categories of MJC, engaged in risk-taking by favoring restrictive considerations when the arguments seemed illusory or felt to evoke destructive feelings. Illusory perceptions and destructive feelings induced ambiguity-aversion in respondents with higher MJC. Inappropriate tolerance and beneficence were resisted more than inappropriate aggression and restrictions in justice. Respondents at lower categories of MJC did not reach a risk aversion cut-off. For this later group, beneficence considerations remained preferable over restrictive considerations irrespective of argument invalidity or discomfort. Respondents' attitude bias represents a spurious effect, relevant only when combined with moral judgment competence. Thus, the moderating effects by attitude bias differ for respondents with higher and lower moral judgment competence.

MJC and/or attitude serve as better moderators for more manifest argument qualities. They both moderate the slope for sensitivity to stage and for the frequency of escalation and de-escalation details. However, MJC is a better moderator of the slope for beneficence and restrictive considerations than attitude, while their combined moderating effect enhances both slopes. Attitude bias is relevant in moderating the slope variance for de-escalation and escalation details, while moderation by MJC is not relevant. In fact, it is plausible that competence might interfere in moderating the detail slopes. The combined effect of MJC and attitude bias enhances the moderation of the slope variance of beneficence and restrictive considerations for the main and interaction effects. Respondents' attitude and not MJC moderates the interaction slope variance for beneficence/restrictive considerations with escalation and de-escalation details. This lends support to the notion that bias is more concrete and categorical relying on details, while MJC is more abstract and controls against the obvious intent of details.

The effect of X on Y (acceptability) is collinear for beneficence and restrictive slopes in figures 9, 10, 11, but not when X represents details as in figure 10. The effects of escalation and de-escalation details form a bilinear regression.

An interesting significant and relevant relationship is between the relative frequency of the escalation details in pro arguments and de-escalation details in con arguments. De-escalation details improved the acceptability of con arguments, while escalation details slightly decreased, or had no effect on the acceptability of pro arguments (figure 7). This is consistent with the most pervasive effect evident in all the figures above i.e., a preference for beneficence over restrictive justice considerations in respondents' acceptance of arguments. Since the majority in the sample disagreed with the need for war (87.7%,) one might assume that this simply reflects attitude bias. Increasing details enhanced the acceptability of arguments that corresponded with respondents' attitude, but caused a boomerang effect in their acceptance of arguments that failed to correspond with their attitude.

Yet, respondents who agreed with the need for war also preferred beneficence to restrictive considerations (figure 21). To explain this effect characterized by a preference

for beneficence principles over restrictive justice considerations (figure 3,) we offer two alternatives. First respondents, who agreed with the need for war, may have identified the higher moral imperative of de-escalation, but it did not affect their behavior. Second, they generally understood the benefits of peace, but in this context, they were more prone to believe that peace was a greater risk.

In looking at the quality of the arguments in figure 4 & table 5: It is no surprise to find a preference for arguments perceived as realistic over those perceived to be illusory in figure 5 and for arguments that evoke constructive feelings over those that evoke destructive feelings in figure 6. This finding is consistent with expectations based on rational theory. Both factors are relevant and significant and are the strongest predictors of respondents' acceptance of arguments. Stage however is significant, but not relevant as shown in figure 4 and table 5.

The slopes for beneficence or restrictive considerations by stage sensitivity, in figure 11, confirm the initial theoretical validity for the effect of stage. Higher stage arguments are better acceptable than lower stage arguments. Adjacent means are more similar than nonadjacent means. Preference for beneficence over restrictive considerations confirms the suppression of arguments provoking greater emotional conflict.

In figure 19, MJC serves to modify this effect by a corresponding increase in the slopes for beneficence over restrictive considerations. Respondents with higher MJC rejected the lower stages more and accepted higher stages more than respondents with lower MJC. Thus, they suppressed restrictive considerations less, which implies less reliance on attitude. However, in figure 22 respondents who agreed with the need for war accepted beneficence considerations better than restrictive consideration, thereby contradicting expectations based on attitude bias. These results raise questions that are explained better by prospect theory than by formulations in rational theory.

The moderation of stage sensitivity by MJC in figures 27 & 28 appears in interaction with beneficence and restrictive considerations in figures 29 & 30. The moderation of stage sensitivity by attitude appears in figures 31 & 32. The moderation of stage

sensitivity by both MJC and attitude appear in figures 33 & 37. Respondents' capacity to rely on internal moral principles increased their stage sensitivity. In figure 28, the stage slope is shown to increase according to hierarchical increases in stage. However, conventional level arguments have negative slopes lending support to the notion that conventional reasoning is accepted less by respondents with higher moral competence and more by those with lower competence. Conversely, post-conventional arguments display positive slopes, which confirms the notion that sensitivity to stage differences is consistent with the ability to utilize these differences better. These findings also confirm theoretical formulations of moral judgment and competence.

The contribution of MJC to stage sensitivity is further clarified by its interaction with beneficence and restriction considerations in figure 30. The stage slopes for beneficence considerations, against the war are negative, but the stage slopes for restrictive justice, supporting the war, are positive. Most respondents consciously disagreed with the need for war. However, they revealed a less-conscious rejection of arguments consistent with their own attitude and accepted arguments inconsistent with their own belief bias better. This challenges rational expectations for the effect of attitude bias. The importance of this effect is strengthened because increasing reliance on internal moral principles corresponded with higher stage sensitivity, confirming the theoretical validity of these findings (figure 29).

The effect of attitude bias conflicted with the theoretical constructs for stage sensitivity: however, it portrayed the general pattern in figure 31, revealing respondents' less conscious disagreement with arguments consistent with their own attitude (figure 32).

Moderation by both moral judgment competence and attitude lends further support to the notion that respondents were influenced, less consciously by arguments inconsistent with their own bias. This challenges rational expectations based on attitude and supports unexpected variations attributable to the influence of heuristics in framing and context. This reasoning is supported by a theoretically consistent pattern between stage sensitivity and the hierarchical stage sequence. A random effect would logically disrupt this correspondence between stage sensitivity and the hierarchical stage order.

CHAPTER 6

FINAL REMARKS

6.1. DISCUSSION

This research aimed at understanding the contribution of moral judgment competence and bias in evaluating arguments in favor of and against the Iraq war. Rationally we anticipated that a shift from a secure status quo to one of ambiguity and unknown risks would challenge normative principles of beneficence and encourage restrictive considerations. These findings support the notion that a critical transition from natural inalienable rights to limited rights and freedoms is a compromise, which is first accepted pre-consciously before it is consciously acknowledged. It is the price for social security and development that is more begrudgingly, resisted by persons with lower moral competence.

Observed contradictions in rational expectations for both attitude and competence serve as witnesses to the difficulties in moving from a sense of well being to uncertainty and risk. Overall, this investigation supports the literature on moral stages, on theoretical validity of moral judgment competence and on cognitive escalation and de-escalation in conflicts. It confirms some of the expectations based on rational utility theory, but violates others. Prospect theory serves to explain observed variations, which violate rational formulations. Rational expectations are violated by the observed effect of framing, inducing risk-taking from the domain of loss and risk-aversion from the domain of gain. The moderation of the stage sensitivity by MJC determines the steepness of the slope. Its moderation by bias determines the difference between the intercepts of the slopes for consistent and inconsistent considerations. The effects observed were unexpected. Expectations from rational theory suggest that beneficence considerations are in principle accepted better than restrictive justice considerations. Although the intercepts in figure 29 confirmed this, the slopes in figure 30 confirmed the reverse effect. Rational theory suggests that persons with higher moral judgment competence will prefer peaceful principled solutions. In figure 29, this is true for pro arguments, but not for con

arguments. Persons with higher MJC reject beneficence more than restrictive considerations, when arguments seem illusory in figure 17 and when arguments evoke destructive feelings in figure 18.

Rational theory suggests that people accept arguments consistent with their own belief and reject belief-inconsistent arguments. In figure 21 respondents in favor of the war accepted arguments against the war better. In figure 30, the slopes for belief-consistent arguments were negative, but positive for belief-inconsistent arguments.

These results challenge rational expectations and represent a shift in the perceived status quo after 911. Bounded rationality or prospect theory, explain them better. One explanation is that the ambiguity of the evidence and the uncertainty of the risks associated with the conflict combined to increase ambiguity-aversion (Moneta, 1991). Over-weighting pro-war considerations and the under-weighting of considerations against-war may also represent a latent effect which respondents were unable to consciously control. This effect lends support to Chomsky's notion of how big nations can behave with smaller nations. The lower pre-conventional solution is easier to frame and to promote by amplifying the risks, dangers and pitfalls and increasing fear and anxiety. This results in over-weighing restrictive considerations. On the contrary, the post-conventional moral principle is much more difficult to frame and to argue for under ambiguous and uncertain risk conditions.

In considering future research designs for the study of moral judgment competence, there is a need for constructive discussion on how to integrate the effect of orientation bias. These results offer some insight toward a theory for stages of decisional-competence that integrates current formulations on the quasi-simplex structure, sensitivity to a hierarchical sequence of stages and the parallel suppression of considerations inconsistent with an individual's own orientation. In estimating relevant differences in moral competence, steeper slopes with larger adjacent mean differences depict higher decisional-competence. Shallow slopes and smaller adjacent mean differences depict lower decisional-competence. Conversely, the parallel mean differences between the slopes for consistent and for inconsistent considerations provide an estimate of the effect of attitude

bias. Larger mean differences between the slopes depict stronger, more resistant, rigid or inflexible orientation. Smaller mean differences between the slopes depict greater tolerance, more accepting or flexible orientation.

Thus, moral decisional-competence would conform to a measure that integrates the slope and the intercept variance, respectively, the effect for stage sensitivity ($\beta 1$, $\beta 2$) and the effect of orientation bias ($\alpha 1$, $\alpha 2$).

Table 14 Depicts modeling of the dynamics between slopes and intercepts for decisional-competence

Slopes/ stage sensitivity	Intercepts/ effect of orientation bias	
	Small bias effect	Larger bias effect
Steep	High stage sensitivity, low in bias	High Stage sensitivity, strong bias
Shallow	Low stage sensitivity, low in bias	Low Stage sensitivity, Strong bias

Steeper slopes and small intercept differences would imply a very high integration of stage sensitivity with a very small bias effect. As the intercept differences increase, bias interferes with stage sensitivity and lowers competence. As the slopes decrease from 45 degrees to zero, shallow slopes with small intercept differences would imply random behavior independent of stage sensitivity and some bias effect. Shallow slopes with higher mean differences imply behavior based primarily on attitude.

In thinking of the possibility of framing stages for decisional-competence, one could consider combining the slope ($\beta 1$) and intercept ($\alpha 1$) for the pro arguments and contrasting the outcome with the slope ($\beta 2$) and intercept ($\alpha 2$) for the con arguments. For example, by adding α to the product of β and an individual's C_index value (i.e., probability of moral judgment competence,) we derive the following equation:

$$\text{Stage for Decisional-competence} = \alpha + \beta * \mathbf{C}.$$

Beta β is the slope coefficient, alpha α is the intercept of the slope and **C** is the C_index as defined by Lind (2004).

This modeling renders a normative relationship between reasoning and bias as distinct, but inseparable aspects of competent decision-making available for consideration in further study. The question would be how to best combine the intercept values with the

slope values to derive a measure that could systematically represent an integrated formulation of the steepness of the slope and the difference between the means of the pro and con slopes. This would serve as an estimate of the steepness in reasoning and the distance in bias.

Stages for decisional-competence must coordinate the potential contamination of heuristics biases with an objective capacity for competence. Competence first represents sensitivity in differentiating among hierarchical constructs. Constructs closer to each other are more difficult to distinguish than are constructs further from each other in a hierarchy of values. This represents a quasi-simplex structure. Greater competence means that finer distinctions are perceptible between constructs closer to each other in meaning. Competence means greater differentiation among more perceptible differences. Lower sensitivity to adjacent differences reflects lower competence. The correlation between hierarchical constructs and the value attributed to them is a positive measure of their order and their values.

Competence represents smaller differences between the values attributed to constructs consistent and inconsistent with a preferred perspective. Attitude bias means attributing higher value to framing consistent with, rather than framing inconsistent with a preferred perspective. While attitude under-weighs the over all value of inconsistent constructs and over-weighs the overall value of consistent constructs, the preferred perspective should have no effect on the quasi-simplex structure or positive value for hierarchical constructs. Sensitivity to hierarchical differences within each group should remain comparably constant. If this integrity holds then competence is affected by attitude bias, but is not simply overridden by it. If either of these is disrupted, it represents evidence that ones competence is contaminated either by attitude or by other categorical unconscious impressions based on heuristics in context, frame or perceived gain or loss.

Ideal, decisional-competence is defined as maximum sensitivity in appreciating the value of higher constructs relative to lower ones, simultaneously, resisting the effect of bias. When attitude overrides the influence of competence, there is no sensitivity to differences in constructs and inconsistent constructs are maximally under weighted. As sensitivity

increases, competence engages attitude and if successful, reduces the under-weighting effect of attitude.

If the values attributed to constructs are negatively correlated with their place in the hierarchy or if the relationship is erratic, it serves as evidence that contextual heuristic biases have contaminated the capacity for competence. Strong ambiguities in a dilemma involving extremely high risks can disrupt even the effect of attitude bias by reversing the values attributed to the constructs. Constructs inconsistent with the preferred perspective are then valued higher than consistent constructs.

The concept of parallelism means that the values for consistent and inconsistent constructs do not cross over; larger parallel distances between the two slopes reflect greater reduction in the effectiveness of a person's competence.

Suggestions for further research recommend developing and formulating stages of moral judgment competence in decision-making, employing the theoretical logic and validity of the experimental questionnaire, the relationship between intercepts and slopes i.e., between a more and a less conscious intent and prospects in context and framing. One aim might be to examine the relationship between heuristic biases in real risk contexts and similar biases in hypothetical risk contexts. Thus, challenging the normative assumption that competence means freedom from bias and clarifying their distinct and inseparable roles in choices and frames relative to context.

The results described in this study confirmed many of our expectations based on our rational assumptions: Arguments perceived to be valid were accepted, but arguments perceived to be invalid were rejected. Similarly, arguments evoking comfort were accepted and those evoking discomfort were rejected. More details supporting ones preference were utilized, but more details opposing ones preference were either rejected or simply ignored. The results also confirmed utilitarian notions that experiences of beneficence are preferred over experiences that restrict justice considerations.

Discovering non-rational variations, in uncertainty, this study turned to formulations in prospect theory. It found that some of these variations were explained better as risk-

taking from the domain of loss and risk-aversion from the domain of gain. This was true among persons who demonstrated greater capacity to rely on internal moral principles, but not among persons who demonstrated lower capacities to rely on internal moral principles.

Thus, confronting a second dilemma, why do smarter people seem to take higher risks? Why do others seem to rely on a utilitarian categorical principled bias? It found that persons demonstrating higher competence were more sensitive to differences in the structure of the arguments than persons demonstrating lower competence. They preferred arguments scored at higher stages of moral development more and those scored at lower stages less. Ok big deal! So smarter people discriminate among Kohlberg stages better, what else is new.

By plotting the intercepts and the slopes for each stage, the observed effect, challenging bias but not contradicting stage sensitivity, seems to be an important finding and perhaps a major variation. The intercepts for each stage confirmed the utilitarian preference for beneficence over restricted justice, but the slopes reversed this preference. This may mean that the intercepts represent respondents' conscious intent, while the slopes represent a less conscious effect and possibly respondents' underlying less conscious intent.

These results question rational assumptions based on stage theory and theories of moral judgment competence. If the intercepts represent a more conscious intent, they may also represent an initial bias, which corresponds with a person's expressed preference or intent. Similarly, if the slopes reflect a less conscious effect, they may represent alternatives to the conscious preference, which reflects internalized conflict between biases, particularly when the effect is reversed. These considerations support a theory, which maintains that choices combine rational and non-rational intents, i.e., reason and biases to form what we term normative competence. Since together they are distinct, but inseparable aspects in decision-making, in assessing competence their interaction must be analyzed using methods that do not separate these as independent measures. This may not be a small undertaking.

CHAPTER 7

ZUSAMMENFASSUNG

Diese Dissertation berichtet über Forschung, die sich auf einen experimentellen Fragebogen stützt, der auf theoretischer Gültigkeit, Logik und der Grundstruktur des moralischen Urteiltests basiert. (Lind, 1985) Das Ziel war, zu verstehen, inwiefern die Einstellung Vorurteile der Teilnehmer oder ihre Fähigkeit sich auf innere Prinzipien zu verlassen dazu betragen politische Argumente für oder gegen einem präventiv Krieg gegen Irak 2003 abzulehnen oder akzeptieren.

Ein experimenteller Fragebogen untersucht Faktoren auf die sich Teilnehmer bei der Annahme von Argumenten möglicherweise verlassen haben. Er bestand aus 3 Teilen:
1) kurze Vignette 2) Eigene Zustimmung der Teilnehmer zur Notwendigkeit des Krieges 3) zwölf Argumente aus politischen Reden: Sechs für den Krieg (pro) von Bush und Blair und sechs von Chirac und Schroeder gegen die Notwendigkeit (con) des Irak Krieges. Jedes Argument wurde im Voraus mit Hilfe von Kohlberg's (1984) Stufentheorie und Common's (2004) hierarchisch Komplexem Punktesystem (HCSS) bewertet. Die Details in jedem Satz der Argumente wurden anhand des Kognitiven Eskalation- und Deeskalation Modells nach Kempf (2003) vorgestuft (CEDM).

397 Teilnehmer benutzten eine 7 Punkte Likert Skala. Sie stuften ihr eigenes Orientierungsvorurteil danach ein, ob sie der Notwendigkeit des Krieges zustimmten oder nicht. Für jedes Argument stuften sie außerdem ein: als Maß für Akzeptanz ob sie den Hauptpunkt jedes Argumentes abgelehnt oder akzeptiert hätten; als Maß für subjektive Gültigkeit, ob das Argument illusorisch oder realistisch erschien; als Maß für subjektives Wohlbefinden, ob das Argument destruktive oder konstruktive Gefühle hervorrief.

Die Datenanalyse zielte erstens darauf, die Wahrscheinlichkeit intra-personaler Faktoren als signifikant und relevant für kumulative Akzeptanz von Argumenten vorauszusagen. Zweitens sollte die Wahrscheinlichkeit gezeigt werden, dass Modifizierung durch

moralische Urteilskompetenz und/oder Einstellungsvorurteile als inter-personale Faktoren signifikant und relevant sind.

Die Analyse verwendete Kovarianz-Parameter- Schätzungen für hierarchisch lineare Modelle (HLM) nach Bryk und Raudenbush (1992) mit Maximum Wahrscheinlichkeit durch die Gleichung (1- Modell Kovarianz/Abschnitt Kovarianz) Akzeptanz für Signifikanz wurde auf dem Wahrscheinlichkeitsniveau $p < 0.01$ angesetzt. Akzeptanz für Relevanz folgte Cohen und Cohen's (1983) 10% der Standart-Abweichung als Kriterium für die Eignung des Modells. Der Abstand der Linien auf der y-Achse für pro und con Argumente in bezug auf die Stufensensitivität zeigt die bewusste Intention der Teilnehmer an, während die Steilheit der Linien die weniger bewusste Intention der Teilnehmer repräsentiert.

In der Studie bestätigten die signifikanten und die relevanten Ergebnisse die Erwartungen in Übereinstimmung mit den theoretischen Formulierungen. Sie bestätigten die theoretische Gültigkeit der Unterschiede in moralischer Urteilskompetenz, definiert durch Stufensensitivität und die Logik des experimentellen Designs. Sie bestätigten Erwartungen hinsichtlich kognitiven Eskalations- und Deeskalationsdetails in der Konflikttheorie. Sie bestätigten erwartete Wertvorstellungen in der Rationalen Theorie. Unerwartete Variationen wurden erklärt unter Anwendung der Heuristik, wie Tversky und Kahneman (2000) in der kumulativen Prospekt Theorie postulieren. Signifikante und relevante Ergebnisse identifizierten die Modifizierung von Präferenzen durch zwei unabhängige aber untrennbare Aspekte für kompetente Entscheidungsfindung: Einstellung oder Orientierungsvorurteil der Teilnehmer und ihre Fähigkeit sich auf innere Prinzipien zu verlassen.

Vorschläge für weitere Forschung enthalten ein Stufenmodell, welches formuliert wurde, um die Beziehung zwischen Orientierungsvorteil und verstandesmäßiger Argumentation als untrennbare aber unterschiedliche Aspekte der Entscheidungskompetenz darzustellen. Das Modell hält an der theoretischen Logik und Gültigkeit des experimentellen Fragebogens fest und verbindet Schnittstellen auf der y-Achse mit der Steilheit der

Linien als mehr oder weniger bewusste Intention und Aussicht bezüglich Zusammenhang und Gestaltung.

CHAPTER 8

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CHAPTER 9

APPENDIX: EXPERIMENTAL QUESTIONNAIRE

We are interested in your view and reactions to Quotes from speeches concerning the war on Iraq. After a brief introduction, you will be presented with a group of anonymous quotes followed by identical questions.

These four items DO NOT IDENTIFY you, but facilitate data control.

2. First two letters of your mother's first name:

3. First two letters of your father's first name:

4. First two digits of your house number (02 = 2):

5. The day of your birthday (05 = fifth day of...):

6. What is your religious affiliation?

7. Your gender M F

8. Year of birth

9. Nationality

10. Ethnic Identifier

11. Marital Status Single Married Divorced Separated Widowed or Clarify in Q # 17

12. Number of Children

13.Your highest Degree

14. Academic Discipline

15. Occupation

Following each argument respondents' were asked four questions correctly labeled as pro or con.

Do you Reject or Accept the point of this argument (IN FAVOR OF) (AGAINST) WAR?

Strongly Reject -3 -2 -1 0 nor +1 +2 +3 Strongly Accept

Does the point of this argument seem "Realistic or NOT"?

Illusory -3 -2 -1 0 nor +1 +2 +3 Realistic

Would you have Rejected or Accepted the point of this argument BEFORE?

Strongly Reject -3 -2 -1 0 nor +1 +2 +3 Strongly Accept

What emotion does the point of this argument provoke in you NOW? Rate its Effect on you.

EMOTION (label) : _____

Destructive -3 -2 -1 0 nor +1 +2 +3 Constructive

The war against Iraq began on March 19th 2003.

A discussion of the reasons for the war, the role of the UN weapons inspectors, Saddam's cooperation, and the question of a UN resolution required to back the war had been going on for months BEFORE March 19th, when fighting began any way. The process and the results are different than most persons had anticipated.

On May 1st 2003, President Bush declared that the major combat operations had ended in Iraq.

19. Did you disagree or agree with the need to attack Iraq BEFORE the war started?
Strongly Disagree -3 -2 -1 0 nor +1 +2 +3 Strongly Agree

21. Looking back, do you Disagree or Agree with the war in Iraq NOW?
Strongly Disagree -3 -2 -1 0 nor +1 +2 +3 Strongly Agree

You will be presented with twelve (12) actual quotes from speeches made before the war on Iraq

After reading each Quote you will be asked to respond to the following four questions:

1. ... Do you Reject or Accept the point of the argument?
2. ... Does the point of the argument seem Realistic or NOT Realistic?
3. ... Would you have Rejected or Accepted the point of the argument BEFORE?
4. ... What emotion does the point of the argument provoke in you NOW? Rate its Effect on you. (.... Please write in an emotion before rating it!)

Please respond to all (12) Aguments: Six (6) are IN FAVOR OF WAR, & six are (6) AGAINST WAR.
Restriction: Use center of scale "0 nor", if and only if, neither "-1" nor "+1" fit your response.

The next (6) Quotes are IN FAVOR OF WAR on Iraq. Please read each quote and answer the questions. Please indicate how good the argument is in favor of War.

22. ... "Before September the 11th, many in the world believed that Saddam Hussein could be contained. But chemical agents, lethal viruses and shadowy terrorist networks are not easily contained. Imagine those 19 hijackers with other weapons and other plans -- this time armed by Saddam Hussein. It would take one vial, one canister, one crate slipped into this country to bring a day of horror like none we have ever known. We will do everything in our power to make sure that that day never comes."

23. ..."There is a line in our time and in every time between those who believe all men are created equal and those who believe that some men and women and children are expendable in the pursuit of power; between the defenders of human liberty and those who seek to master the minds and souls of others. "

24. ..."I repeat my warning: unless we take a decisive stand now, as an international community, it is only a matter of time before these threats come together. That means pursuing international terrorism across the world in all its forms. It means confronting nations defying the world over Weapons of Mass Destruction. That is why a signal of weakness over Iraq is not only wrong in its own terms. Show weakness now and no-one will ever believe us when we try to show strength in the future. "

25. ..."But Saddam's weapons of mass destruction and the threats they pose to the world must be confronted. In doing so, this country, and our armed forces, will be helping the long-term peace and security of our country and the world."

26. ..."These regimes could use such weapons for blackmail, terror, and mass murder. They could also give or sell those weapons to terrorist allies, who would use them without the least hesitation. This threat is new; Our duty is familiar."

27. .."Throughout the 20th century, small groups of men seized control of great nations, built armies and arsenals, and set out to dominate the weak and intimidate the world. In each case, their ambitions of cruelty and murder had no limit. In each case, the ambitions of Hitlerism, militarism, and communism were defeated by the will of free peoples, by the strength of great alliances, and by the might of our nations."

The next (6) Quotes are AGAINST WAR on Iraq. Please read each quote and answer the questions. Please indicate how good the argument is AGAINST War.

28. ..."Firstly I feel that war is always the worst possible solution and would add that in that region, above all others, we don't need any more wars. Having said that, I repeat, I feel that we need to wait. We have adopted a strategy of using inspectors. We need to have confidence in the inspectors - I do, I do, not everybody does - and we need to give those inspectors the amount of time they need to carry out the work we have entrusted to them."

29. ..."The industrialized countries have a primary responsibility toward the planet and toward future generations. Sustainable development is urgent. There is an urgent need for more discipline. There is also an urgent need for new scientific and technological breakthroughs - a challenge to our inventiveness and competitiveness."

30. ..."When there are people that I am just not interested in, I won't really worry. But if there is a friend or somebody I dearly love, and if you see that they are going down the wrong path, and if you feel, at least, that that is the case, then friendship demands that we tell that friend, that we warn him."

31. ..."We are doing our duty for peace. Together with other countries the Federal Government is making every effort to resolve the conflict with Iraq peacefully. That is possible. That is what we are struggling to achieve."

32. ..."Does the extent of the threat that emanates from the Iraqi dictator justify the use of war, something that will bring certain death to thousands of innocent men, women and children? My answer in this case was and still is: No!" Iraq is now a country subject to extensive UN monitoring. What the Security Council has demanded in the way of disarmament steps is being fulfilled more and more. As such, there is no reason to interrupt this disarmament process now."

33. ..."Thus all the evidence suggests that monitored disarmament and effective inspections are indeed a viable means of eliminating the danger presented by weapons of mass destruction. Anyone who nevertheless now gives priority to a military solution must provide a credible explanation that there is no alternative to war."