



# Promoting integrative bargaining: mental contrasting with implementation intentions

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## Abstract

**Purpose** – The present experiment aimed to test the impact of a self-regulatory strategy of goal pursuit – called mental contrasting with implementation intentions (MCII) – on an integrative bargaining task.

**Design/methodology/approach** – Participants were randomly assigned to dyads and negotiated over the sale of a car. Before negotiating, participants were prompted to engage in MCII, or one or the other of its two component strategies: to contrast mentally achieving success in the integrative bargaining task with the reality standing in the way of this success (MC), to form implementation intentions on how to bargain (i.e. if-then plans) (II), or both to contrast mentally and form implementation intentions (MCII).

**Findings** – The strategy of mental contrasting with implementation intentions led dyads to reach the largest joint agreements, compared to dyads that only used mental contrasting or if-then plans. Moreover, participants who mentally contrasted formed more cooperative implementation intentions than participants who did not mentally contrast, mediating the effect of condition on joint gain.

**Research limitations/implications** – The findings suggest that the self-regulatory strategy of mental contrasting with implementation intentions (MCII) leads to higher joint gain, and that this effect is mediated by mental contrasting's promotion of cooperative planning. More research should be done to understand the specific negotiation behaviors engendered by MCII, as well as its applicability to other negotiation scenarios.

**Originality/value** – These findings have implications for both self-regulation and negotiation research. The result that MCII fosters integrative solutions reflects its potential to help people form cooperative plans and reach high joint-value agreements in integrative scenarios. For negotiation research, the paper identifies an effective self-regulatory strategy for producing high-quality agreements.

**Keywords** Integrative bargaining, Self-regulation, Mental contrasting, Implementation intentions, Negotiating, Behavior, Flexibility agreements

**Paper type** Research paper



**Integrative agreement**

An integrative agreement, first introduced by Walton and McKersie (1965), is an agreement in which the parties achieve a larger joint outcome than they would with a mere compromise (Carnevale and Pruitt, 1992; Follett, 1940). There are four general ways to reach an integrative agreement:

- (1) cutting a party's costs;
- (2) compensating for costs incurred;
- (3) bridging the parties' positions (i.e. "expanding the pie"); and
- (4) logrolling (Pruitt, 1981).

In cost cutting and compensation, the parties do not retreat from their original positions, but instead find a way to make an agreement more attractive for the other. The remaining two forms of integrative agreement, i.e. bridging and logrolling, require the parties to change their positions in order to agree (Pruitt, 1981). In bridging, a new option is developed that meets each side's primary needs: generally, each side makes minor concessions to find a new, previously unexplored solution that still meets each side's main concerns. The latter option, logrolling, depends on each side's ability and willingness to cooperate with each other to trade issues (Froman and Cohen, 1970; Walton and McKersie, 1965): parties can achieve higher joint benefits if they make trade-offs on issues that matter differently for each side (Carnevale and Pruitt, 1992). The insight necessary in this case is the willingness to search for trade-off opportunities, and research has shown that there are a number of cognitive, motivational, and emotional barriers (for reviews, see Thompson *et al.*, 2010, or Lewicki *et al.*, 2007).

**Goal pursuit in negotiation: goal setting and goal striving**

Psychologists interested in self-regulation of goal pursuit have long researched the ways in which individuals can overcome internal and external barriers to reach their goals. Generally goal pursuit is considered to have two distinct processes – i.e. goal setting and goal striving – and much research has been conducted to examine both processes across a variety of life domains (Oettingen and Gollwitzer, 2009). Negotiation in particular is a goal-driven activity (Kumar, 1997), and researchers have examined how having set goals can influence bargaining. Negotiators with goals tend to achieve higher profits than those without (Neale and Northcraft, 1986; Northcraft *et al.*, 1994), and in bargaining scenarios where the motives and tactics of one's partner are unclear, negotiators with general "do your best" goals achieve higher profits than those with specific goals (Polzer and Neale, 1995). While challenging, specific goals have been shown to lead to better performance in a variety of other domains (Locke *et al.*, 1981), negotiators with challenging specific goals often fail to incorporate new information and focus on sub-issues instead of the whole negotiation. This is particularly detrimental to negotiations with logrolling potential, because trade-offs require the simultaneous consideration of multiple issues.

*Mental contrasting: the self-regulation of goal setting*

To integrate effectively, a strong goal commitment to achieve, coupled with the willingness to cooperate, can increase the chance of profitable outcomes.

Self-regulation research has identified a self-regulation strategy, i.e. mental contrasting, that produces strong goal commitments, promotes discrimination between effective and ineffective means to goal attainment (Oettingen, 2000; Oettingen *et al.*, 2001, 2009, 2010c), and recently has been shown to promote integrative bargaining (Kirk *et al.*, 2011a). This self-regulatory strategy involves the mental contrasting of fantasies about a desired future with aspects of the present reality that stand in the way of fantasy realization. Mentally contrasting future and reality leads people to consider the feasibility of the desired future outcome when committing to a goal. If feasibility (expectation of success) is high, mentally contrasting the desired future with present reality produces strong goal commitment, followed by vigorous goal striving. Merely indulging in the desired future or dwelling on the present reality does not lead to the consulting of expectations, and in turn evokes only moderate, expectancy-independent, goal commitment. A series of experimental studies support these hypotheses, using various indicators of goal commitment: cognitive (e.g. making plans), affective (e.g. feelings of anticipated disappointment in case of failure), motivational (e.g. feelings of energization, systolic blood pressure), and behavioral (e.g. invested effort and actual achievement) measures (for a review, see Oettingen and Stephens, 2009). Recently, mental contrasting has also found to be an effective meta-cognitive strategy: taught as a general strategy to mid-level managers, mental contrasting led to better time management and decision-making in everyday life (Oettingen *et al.*, 2010b). Furthermore, it is important to note that mental contrasting effects are not due to the length of time spent contrasting, changes in expectation of success, or desirability (for review, see Oettingen and Stephens, 2009; Adriaanse *et al.*, 2010); rather, the effects are due to enhanced goal commitment and goal striving.

Mental contrasting also promotes integrative bargaining: in a bargaining scenario with the potential to integrate through logrolling, dyads that mentally contrasted over a desired outcome – earning as many points as possible – achieved greater joint agreements than dyads that merely indulged, dwelled, or negotiated, respectively (Kirk *et al.*, 2011a). In logrolling, the means to the desired outcome (i.e. profit) are expressed as demands and concessions made to the other party. Through the mental exploration of the most desirable future outcome (i.e. negotiation success) as well as aspects of present reality standing in its way, mental contrasting not only strengthens goal commitment, it may also lead to the recognition that compromise is likely necessary to overcome the obstacles to a profitable negotiation; namely, the goals of one's partner. The combination of commitment and consideration of one's partner may, in turn, promote the search for integrative solutions.

#### *Implementation intentions: the self-regulation of goal striving*

The connection between set goals and goal attainment can be strengthened by planning in the form of implementation intentions (i.e. if-then plans; Gollwitzer, 1999; Gollwitzer and Sheeran, 2006). An implementation intention is a plan of action, which takes the form "If I encounter situation X, then I will perform behavior Y!". For example, if someone wants to develop better eating habits, she may form the if-then plan: "If I open my refrigerator, then I will grab a piece of fruit". This if-then plan forms a mental link between a critical situation and a goal-directed behavior, which in turn engenders a behavioral readiness to respond: when the situation is encountered, the appropriate behavior becomes initiated automatically (i.e. immediately, efficiently, and

without a further conscious intent; Gollwitzer and Brandstätter, 1997; Brandstätter *et al.*, 2001; Bayer *et al.*, 2009). Furthermore, the mental link between situation and behavior has been shown to promote a perceptual readiness as well: the specification of a cue heightens its accessibility and makes it easier to detect (Achtziger *et al.*, 2012; Webb and Sheeran, 2006, 2008). The combination of behavioral and perceptual readiness has proven to have a powerful effect on self-regulation: a meta-analysis by Gollwitzer and Sheeran (2006) reported a medium-to-large effect size ( $d = 0.65$ ) of implementation intentions' additional facilitation of goal achievement, compared to set goals alone. When set goals cannot ensure goal attainment, if-then plans can be swiftly created and enacted to:

- shield participants from distracting stimuli (Achtziger *et al.*, 2008);
- remember proactive behavior (McDaniel *et al.*, 2008);
- conserve self-regulatory capacity (Webb and Sheeran, 2003); or
- switch to more effective goal striving behavior (Henderson *et al.*, 2006).

There is precedent for the benefits of implementation intentions in bargaining as well. Troetschel and Gollwitzer (2007) observed that assigned implementation intentions can shield people's negotiation behavior from the negative effects of loss-framing in negotiation. While framing a negotiation in terms of losses generally leads to loss-aversion and sub-optimal agreement (Bazerman *et al.*, 1985; Neale and Bazerman, 1985), participants given pro-social goals furnished with if-then plans reached agreements with higher joint outcomes than participants with only pro-social goals, or no goals at all (Troetschel and Gollwitzer, 2007). In addition, Kirk *et al.* (2011b) found evidence that self-regulatory strategies to control impulses using assigned goals – and goals supplemented with implementation intentions – led to increased profit through the acceptance of ultimatum offers. When responders were faced with a series of unfair yet profitable ultimatums, goal intentions were not enough to significantly alter acceptance rates, but goal intentions supplemented with if-then plans led to significantly more acceptances. Furthermore, there was no difference between if-then plans designed to shield participants from unwanted impulses, whether through emotion down-regulation, or an orientation toward the task goal of profit – they worked equally well.

### **MCII: combining mental contrasting with implementation intentions**

While forming implementation intentions is a powerful self-regulatory strategy, it requires that a strong commitment to the superordinate goal is in place (Sheeran *et al.*, 2005). Moreover, knowledge of critical cues (“if . . .”), and effective instrumental actions (“then . . .”) is needed. If one does not know when, where and how to act towards the goal, then one cannot craft effective if-then plans. This is particularly true in a novel bargaining scenario, where the participants are anonymous, have never interacted previously, and are new to the laboratory setting. In previous implementation intention research, participants either:

- had the benefit of extensive previous life experience, so they knew the “when” and “where” of effective if-then planning; or
- were prescribed cues and behaviors deemed effective by the researchers (see Gollwitzer and Oettingen, 2010; Gollwitzer *et al.*, 2010).

The effects of implementation intentions in bargaining scenarios cited earlier all involved assigned plans, which previous research had identified as useful (Troetschel and Gollwitzer, 2007; Kirk *et al.*, 2011b). When plans are not assigned, however, each party needs a certain amount of insight into themselves and the situation to plan effectively. As mentioned earlier, mental contrasting may promote cooperative planning, because individuals realize they must deal with the wishes of their partner if they are to achieve their own goals.

Recent research has implicated mental contrasting as a self-regulatory strategy that can produce such insight, and a number of studies have been conducted to examine the benefits of combining mental contrasting with implementation intentions into one intervention: mental contrasting with implementation intentions, or MCII (for a review, see Oettingen and Gollwitzer, 2010). The self-regulatory strategy of MCII allows individuals to craft and strengthen their own goals, and to develop complimentary implementation intentions to instigate and maintain goal striving. First, implementation intentions require strong goal commitments (Sheeran *et al.*, 2005), which mental contrasting creates. Mental contrasting also prepares the individual to begin strategizing about ways to overcome obstacles to goal achievement, and increases a person's readiness to make if-then plans (Oettingen *et al.*, 2001, 2005). Implementation intentions can subsequently be created using the obstacles identified in mental contrasting: the obstacles become the critical cues ("if..."), and the behavioral responses to overcome them are linked to those cues ("then..."). After mentally contrasting before a negotiation, a possible if-then plan might be following: "If I am not getting the full asking price for my car, *then* I will make a concession on the length of the warranty". The obstacle of reality in this case is the other person's demand for a lower price, and the solution is to logroll: to concede on a lesser goal of a short warranty to achieve the greater goal of selling the car at full price. Empirically, MCII interventions have had much early success in other life domains, leading to healthier eating behavior (Adriaanse *et al.*, 2010; Stadler *et al.*, 2010), increased physical exercise (Stadler *et al.*, 2009), enhanced mobility in chronic back-pain patients (Christiansen *et al.*, 2010), better academic performance in adolescents (Duckworth *et al.*, 2011), and more effective time management (Oettingen *et al.*, 2010b).

#### *The present research*

Can individuals use MCII to achieve higher personal gains through integrative agreements? Since recent research (Kirk *et al.*, 2011a) has demonstrated the benefit of mentally contrasting over a control condition in integrative bargaining, the purpose of the current study is to compare the impact of mental contrasting with the impact of implementation intentions, and the impact of the MCII combination. As previously stated, mental contrasting is particularly suited to integrative bargaining: it fosters commitment to reach agreement, as well as insight into the fact that one's partner is an obstacle to be navigated, if one's own goals are to be met. Implementation intentions, on the other hand, are a powerful self-regulatory tool for goal striving, but they require insight into what an "effective" if-then plan should contain. Without reflecting on the nature of the negotiation by using mental contrasting, we suggest that it will be less obvious to form cooperative plans, and thus form an effective implementation intention for integration. In contrast, an individual who uses both self-regulatory strategies in an MCII exercise will not only form a strong commitment to achieve points, but will form

cooperative plans aimed to navigate the give-and-take required for integration. Therefore, another purpose of the current study is also to identify how exactly mental contrasting may promote effective planning.

We hypothesize that participants who are given instructions to earn as many points as possible, and use the combined strategy of mental contrasting with implementation intentions (MCII), will achieve the largest integrative agreements. The agreements should be larger than those of participants who only use mental contrasting or only use implementation intentions. Integration, in this case, is the best way for two partners to achieve their personal goals of point maximization. Furthermore, we hypothesize that participants that form only implementation intentions will achieve the smallest integrative agreements, since they have not mentally contrasted and thus lack the insight into effective planning. While mental contrasting has been shown to promote spontaneous planning (Oettingen *et al.*, 2001, 2005, 2010a), we expect the explicit plan-formation in MCII to lead to even better negotiation outcomes. We also hypothesize that the performance difference between II and MCII is mediated by the cooperative qualities of the plans, which prepares participants for the give-and-take required in logrolling.

Mental contrasting is operationalized by having participants list and elaborate the desired future (point maximization), as well as aspects of the present reality standing in the way. Implementation intentions are operationalized by asking participants to form if-then plans that will help them achieve it. MCII is operationalized by combining the previous two strategies: first participants mentally contrast, and then use their desires and obstacles to form complementary if-then plans. Each dyad's level of integration is operationalized using a point system, in which participants earn points across eight distinct components of a negotiation for a new car. The point structure is designed so that each dyad can earn more points if they recognize the potential for trade-offs, instead of merely negotiating for the most points in each category. We predict that:

- H1. Dyads that perform MCII will develop the necessary goal commitment and insight into the bargaining task to make effective if-then plans; thus, they will achieve the highest joint gains, compared to dyads who only mentally contrast or form implementation intentions, respectively. Dyads that only form if-then plans will lack the goal commitment and insight needed to form effective plans, and will reach the lowest joint gains. Dyads that only mentally contrast will have commitment for and insight into the negotiation, but as they have not formed effective if-then plans, they will reach joint gains at a level in-between the other two conditions.
- H2. Dyads that mentally contrast first (MCII) will form more cooperative plans than dyads that do not mentally contrast (II), because they understand that partner goals are an obstacle that must be navigated en route to their own goals.

## Method

### *Participants*

Participants were 132 University of Konstanz, Germany, undergraduate students (74 female), who received class credit for their participation. The study was advertised

with the name “Social Decision Making”, and potential participants were told that the study would involve making some decisions with other participants in the study.

#### *Procedure*

Participants were invited to the lab in groups of four and were escorted individually into isolated cubicles, so that all interactions during the negotiation would remain anonymous. Participants were then randomly divided into two dyads, and each dyad was randomly assigned to one of three conditions:

- (1) mental contrasting (MC) ( $n = 21$ );
- (2) implementation intentions (II) ( $n = 23$ ); or
- (3) mental contrasting with implementation intentions (MCII) ( $n = 22$ ).

Upon arrival, a research assistant escorted participants into individual cubicles, where they remained for the duration of the experiment. Participants never knew who they were partnered with. After a brief overview of the study, they read instructions regarding the bargaining task. As an incentive to perform well during the negotiation, they read that their points earned through bargaining would be converted into lottery entries for a chance to win up to ten prizes, each worth €20, awarded at the end of the study.

Before beginning the negotiation, participants filled out two background questionnaires about bargaining behavior. To measure subjective negotiation style, participants responded to a six-item questionnaire, on a 7-item Likert scale, how “effective”, “rational”, “emotional”, “experienced”, “assertive”, and “self-interested” they are when bargaining (Kray and Hasselhuhn, 2007). Second, participants completed the Social Value Orientation (SVO) scale (van Lange *et al.*, 1997; van Lange, 1999), a 12-item scale designed to categorize participants’ bargaining style as “cooperative”, “competitive”, or “individualistic”. Each item contains three hypothetical payouts for the participant and an imaginary partner: one choice awards equal value to the two (cooperative), one choice awards the highest individual gain to the participant (individualistic), and the third offers the greatest disparity between the two outcomes, with the larger amount going to the participant (competitive). Participants who answer eight of the 12 items consistently are then categorized as “cooperative”, “individualistic”, or “competitive” in bargaining style. After responding to these items, participants were introduced to the bargaining task.

*Integrative bargaining task.* The integrative bargaining task, “New Car”, was developed by the Dispute Resolution Research Center at the Kellogg School of Business (Dispute Resolution Research Center, 1998). It is commonly used in business school negotiation courses, and is designed so that partners can earn mutually beneficial agreements if they make trade-offs. One participant is randomly assigned the role of Seller of the car and the other is assigned the role of Buyer. The sale of the car depends on negotiating over eight distinct issues:

- (1) warranty;
- (2) financing;
- (3) delivery date;
- (4) air bags;

- (5) audio;
- (6) price;
- (7) color; and
- (8) number of extras.

Each participant is presented with a chart that assigns points to each issue, and they are told that their task is to negotiate for the most points on each issue that they can. Participants do not see their partner's chart and are instructed not to share any aspect of their chart with their partner. For two issues each side wants the exact opposite outcome ("price" and "delivery date"). For another two issues, each side wants the exact same outcome ("color" and "air bag level"). Four issues, however, are "variable sum" issues: by making mutual trade-offs on two issues of less importance, negotiators can make large gains on issues of greater importance. In this case, "warranty" and "audio" matter significantly more to the Seller's overall outcome, whereas "financing" and "extras" matter significantly more to the Buyer. Therefore, dyads can come to mutually beneficial, integrative agreements if each side secures beneficial outcomes on issues that matter most to them and trade-off on outcomes that matter less. Participants are instructed that they will negotiate with each other anonymously, over an instant messenger program, and that they have 20 minutes to come to an agreement. If they do not, each side is awarded 9,000 points for their efforts. While the traditional best alternative to a negotiated agreement (BATNA; Fisher and Ury, 1981; Fisher *et al.*, 1991), in this exercise is 12,000 points, pilot testing among this undergraduate population found a large number of dyads were not reaching an agreement in the time allotted. To compensate for this, we elected to lower the BATNA to 9,000 points, to increase the bargaining zone. The negotiation is completed as soon as an agreement is reached, or as soon as time expires. Before negotiating, a research assistant entered each cubicle and instructed the participants individually with one of the three self-regulatory strategies (mental contrasting, implementation intentions, mental contrasting with implementation intentions). Conditions were assigned at the dyad level, so individuals in each pair were given the same self-regulatory strategy.

*Goal assignment and expectation measure.* Once participants are familiar with the nature of the negotiation, they receive a sheet of paper, which reads:

In the following task, please try to achieve as many points as possible.

After reading this statement participants are prompted to re-write the goal they were just given, as a manipulation check that the goal was adopted. Any participants who did not re-write their goal were removed from analysis. Next, they were asked to record their expectation of success by answering the following question:

How likely do you think you will be able to maximize your points? Please estimate the likelihood, from 0 percent to 100 percent: \_\_\_\_”.

*Mental contrasting manipulation.* After reporting their expectations for the negotiation, participants in the mental contrasting condition are asked to elaborate on two aspects of maximizing points (desired future) and two aspects of present reality standing in the way (obstacles), in alternating order, starting with an aspect of the desired future. The instruction to elaborate reads:



Now really think about this [desired future/obstacle]. Imagine the relevant events and experiences as vividly as possible! Let your mind go! Do not hesitate to give your thoughts and images free rein. (Take as much time and space as you need to write down what you are thinking. If you need more space to write, please use the back of the page.) Please start writing here:

Each participant notifies the experimenter when she is finished with the exercise, and when both participants in a dyad are finished they are instructed to begin the negotiation. Participants elaborated on positive future aspects like winning the lottery, agreeing with one's partner, feeling good about themselves, etc. An example of an elaborated positive future aspect of "winning the lottery":

I can take the money and go shopping. Or I could go out to eat a nice dinner. I could buy the boots I've been wanting. Or the jacket.

As for obstacles, participants elaborated on issues such as competitiveness, exhaustion, emotionality, and similar issues. Here is an example elaboration of "stubbornness" from one participant:

They could insist on whatever will get them the most points and not budge and I'll get worn down and I won't get points.

Any participants who did not complete their mental contrasting exercise were removed from analysis.

*Implementation intention manipulation.* After reporting their expectations for the negotiation, participants in the implementation intention condition do not mentally contrast; instead, they are asked to form two if-then plans for the upcoming negotiation. They were told:

To help you meet your goals in the negotiation, we would like you to make some plans using the two forms that follow: Form 1 and Form 2.

At the top of each form is the following instruction:

All negotiations have critical situations that can determine their outcome. Please take a moment to identify one possible critical situation in this negotiation and write it here.

After reporting this critical situation, participants are asked what they can do when faced with it, and to name a relevant action or behavior. Next, participants are asked to form an if-then plan along the following format: "If (here you name your situation), then (here you name your action)!", and to rehearse this plan slowly in their heads three times. They are then asked to form a second plan focused on another critical situation and respective action, and rehearse it slowly to themselves three times. After each participant in a dyad forms two if-then plans, they begin the negotiation. Participants formed plans that they felt addressed potential obstacles they might encounter during the negotiation. At this point, because they had read their cover stories and seen their payoff matrix, many plans were formed around demand and concession making. For example:

If I do not receive a 24-month warranty, then I will demand the color yellow.

Other plans were more general:

If I have to negotiate with a stubborn person, then I will attempt to convince that person that maximizing points can be done through collaboration.

Any participants who did not form implementation intentions when prompted were removed from analysis.

*Mental contrasting with implementation intentions manipulation.* After reporting their expectations for the negotiation, participants in the mental contrasting with implementation intentions condition are first asked to complete a mental contrasting exercise identical to the exercise presented to the mental contrasting condition. After completing this, they are presented with an implementation intention manipulation identical to the one used in the implementation intention condition, except that they are asked to use the obstacles they listed during the mental contrasting exercise. Participants are instructed to refer back and identify the first obstacle that they listed, and to re-write it. After identifying their first obstacle, they are then asked to identify a behavior to overcome it. Next, participants are instructed to make an if-then plan in which they link the obstacle to the behavior that they just identified. Participants create their if-then plan using the following format: “If (my obstacle) arises, then I will (here you name the behavior to overcome the obstacle)!” After forming their if-then plan, participants are asked to rehearse it slowly in their heads three times. Next, participants complete the same exercise once more, this time with the second obstacle that they listed in the mental contrasting exercise. After each participant in a dyad forms two if-then plans, they begin the negotiation.

#### *Dependent variable*

*Joint gain.* Integrative agreement is operationalized using the point total of the agreement, measured as total points earned by each dyad. This is the sum of the points earned by both Buyer and Seller on each of the eight issues negotiated. If no agreement was reached, each side was awarded 9,000 points, resulting in a 18,000 joint gain for that dyad. Conversely, a dyad that made trade-offs could earn up to 30,000 points, or 15,000 points each. It is possible for one participant in a dyad to earn more than 15,000 points, but at a cost to his or her partner’s point total, and to the dyad’s combined total.

#### *Mediators*

*Cooperative planning.* To assess whether mental contrasting led to more cooperative planning than forming implementation intentions alone, we coded implementation intentions based on their competitive or cooperative orientation. Competitive plans were coded as  $-1$ , cooperative plans were coded as  $+1$ , and neutral plans were coded as  $0$ . Plans were coded  $-1$  if they demonstrated a clearly competitive plan (i.e. “If the seller does not meet my demands, then I will argue harder for them”),  $+1$  if clearly cooperative (i.e. “If my counterpart does not agree to my suggestion or vice versa, then I will try to accomplish a compromise”), or  $0$  if neutral (i.e. “If time is running out, then I will negotiate with less determination”). Two raters coded the plans, unaware of which condition they were from, and disagreements were resolved through discussion. After each plan was scored, plans were summed for each participant and then across each pair, creating a dyad-level variable of planning orientation.

*Word count.* To assess whether any mediating effects of planning were due to difference in the elaboration of implementation intentions, rather than their cooperative versus competitive orientation, we also measured each plan’s word count, summed the totals across participants and dyads, respectively, and derived a dyad-level word count score.

**Results**

*Equivalence of conditions*

A series of statistical tests were conducted to assess the equivalence of conditions across background variables. A  $\chi^2$  analysis revealed no significant difference in the distribution of gender across conditions,  $\chi^2(2, N = 132) = 1.60, p = 0.45$ . As described above, the SVO places a participant in one of three categories if eight of their 12 choices are “cooperative”, individualistic”, or “competitive”, respectively. By this classification, 48 participants were classified as cooperative, 38 participants as individualistic, 18 participants as competitive, and 28 participants were neutral, across all three conditions. To simplify analyses we employed a common method of reducing the groupings from three to two (van Lange, 1999). Participants previously classified as competitive or individualistic were classified as “pro-self”, while participants classified as cooperative were re-classified as “pro-other”. A univariate analysis of variance revealed no difference in the distribution of social value orientation across conditions,  $\chi^2(2, N = 104) = .744, p = .69$ . Each condition was also equivalent in participants’ subjective bargaining style (overall M = 24.32, SD = 4.16),  $F(2, 129) = 1.06, p = 0.35$ . Lastly, our analysis of participants’ expectation, or perceived success, of point maximization was also equivalent across condition (overall M = 56.50, SD = 18.52),  $F(2, 123) = 0.19, p = 0.83$ . Since the conditions are equivalent across gender, social value orientation, subjective bargaining style, and expectation of success, we can confidently rule out sampling error as a cause of any subsequent findings discussed.

*Joint gain*

Across 66 dyads, the average agreement totaled 24,109.09 points (SD = 2, 043.28). This average includes four dyads (conditions: MCII = 2, II = 2) that did not agree in the 20 minutes allotted, who each earned 18,000 total points (9,000 for each side) as the alternative to agreement. We chose to include these dyads in our joint gain analysis, as we felt that their choice of the BATNA over a sub-standard agreement was conscious and aimed at goal attainment, and should thus be reflected in our joint gain measure. The analyses are not significantly affected by their inclusion or exclusion, so we decided their inclusion would more accurately reflect the results of our participants’ decision-making. One dyad that contained a participant who wished to stop negotiating before time ran out has been removed from analysis. It should also be noticed that essentially all participants took the full amount of time to negotiate. The summary statistics for each condition are presented in Table I. All subsequent data will be reported and interpreted at the dyad-level of analysis.

First, a regression analysis of condition on joint gain was significant,  $F(2, 53) = 4.25, p = 0.02$ , controlling for gender, SVO, negotiation style, and expectation, suggesting that none of our background variables moderated our effect. Each potential moderator represents a centered sum of the scores of two participants within a given dyad. As predicted, we also see an upward linear trend of each

**Table I.**  
Average joint gain by  
condition

Condition	Number	Mean	SD
Implementation intention	23	23,400.00	2,440.57
Mental contrasting	21	24,114.29	1,238.66
MCII	22	24,845.45	2,025.49

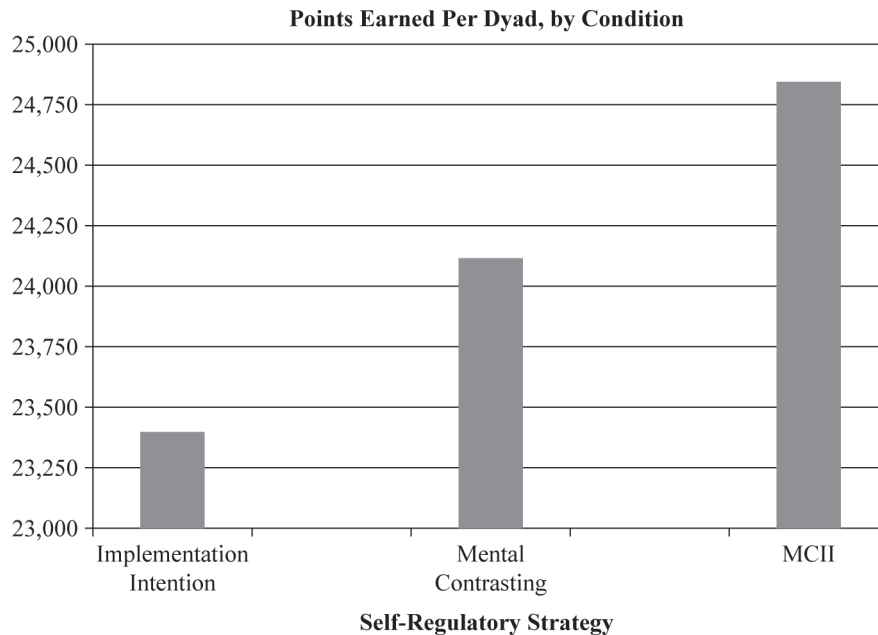
condition's ability to promote joint gain: dyads who formed implementation intentions earned the lowest joint gains, dyads that mentally contrasted earned more, and dyads that performed MCII earned the highest joint gains,  $t(64) = 2.46, p = 0.02$  (see Figure 1).

Looking at a series of pairwise comparisons among conditions, we found a significant difference in points earned between dyads that formed implementation intentions, and dyads that used MCII: those in the MCII condition performed significantly better,  $t(63) = 2.44, p = 0.02$ . The difference in joint gain between mental contrasting and implementation intentions did not reach significance,  $t(63) = 1.19, p = 0.24$ , as was the difference between mental contrasting and MCII,  $t(63) = 1.21, p = 0.24$ .

*Mediating variables*

*Word count.* To assess the potential effects of mental contrasting on planning, we assessed two potential variables that may mediate the effect of condition on joint gain. First, we determined whether mental contrasting first (MCII) led to more elaborate plans than planning alone (II). The mean collective word count of plans per dyad was  $M = 69.55, SD = 13.47$ . We found there to be no difference between conditions with regard to word count,  $F(1, 42) = 0.381, p = 0.54$ . Therefore, we turned to cooperative planning as a mediator between condition and joint gain.

*Cooperative planning.* The mean level of cooperative planing across MCII and II groups was  $M = 0.16, SD = 1.88$ . Again, each plan was coded on a three-point scale, with  $-1 =$  competitive,  $0 =$  neutral, and  $1 =$  cooperative. The cooperative scores



**Note:** If no agreement was reached, each dyad earned 18,000 points total. A maximum of 30,000 total points could be earned

**Figure 1.** Average joint gain per dyad for each condition

were then summed for each participant and then for the dyad, respectively, resulting in the cooperative planning score used in this analysis. First, across 44 dyads, we found positive correlations between condition and cooperative planning,  $r = 0.68$ ,  $p < 0.01$ , and between cooperative planning and joint gain,  $r = 0.39$ ,  $p < 0.01$ . While the different joint gains between MCII and II groups was established above, we also found an effect of condition on cooperative planning,  $t(44) = 4.17$ ,  $p < .01$  (M of MCII = 1.48, SD = 1.33; M of II = -1.04, SD = 1.46). When controlling for cooperative planning, condition no longer predicted joint gain,  $t(44) = 0.37$ ,  $p = 0.71$ . Next, we conducted Sobel and bootstrapping tests (Preacher and Hayes, 2004) to determine whether there was in fact a mediating effect of cooperative planning. While the Sobel test was non-significant,  $Z = 1.67$ ,  $p = 0.10$ , the bootstrapping test did support cooperative planning as a mediator between self-regulatory strategy and joint gain: it produced a 95 percent confidence interval of the effect estimate that did not contain zero (lower bound = 216.36, upper bound = 2,206.68).

### Discussion

Investigating the effects of MCII and its component parts on bargaining in a task with logrolling potential, we found that using the combined strategy of mental contrasting with implementation intentions (MCII) led to higher joint gains than using either mental contrasting or implementation intentions alone. Furthermore, dyads that only formed implementation intentions did not develop the insight necessary for cooperative planning; subsequently, they earned the lowest joint gains. Dyads that mentally contrasted likely developed insight into cooperative planning, but without forming explicit if-then plans, they earned joint gains in-between the II and MCII dyads. We also found support that mental contrasting leads to more cooperative planning, which in turn mediated the effect of mental contrasting on joint gain.

These findings suggest that an MCII intervention is an effective self-regulatory intervention for achieving integrative agreements in negotiation. The present study builds upon previous findings that mental contrasting: promotes logrolling in integrative bargaining (Kirk *et al.*, 2011a), promotes the formation of if-then plans (Oettingen *et al.*, 2001, 2005), and the combination of mental contrasting with implementation intentions is a more effective self-regulatory strategy than using one or the other strategy alone (Adriaanse *et al.*, 2010).

#### *Caveats and outlook*

While we found that the combined self-regulatory strategy of MCII promotes integrative bargaining, there are several caveats that must be made regarding the interpretation of our findings. First, while we possess data on how planning may mediate the relationship between self-regulatory strategy and negotiation, we lack on-line process data to adequately understand additional psychological and behavioral mediators of MCII during bargaining. Future research is needed to adequately measure other mediators: for example, one might stop a similar negotiation after a few minutes and administer self-report items, perhaps getting more accurate *in situ* responses regarding insight, clarity, goal commitment, or other psychological process that may mediate the effects of MCII on bargaining. Lastly, as many MCII intervention studies have measured long-term goal pursuit, and many real-world negotiations take place

over multiple interactions, it may be worthwhile to conduct an MCII intervention before the start of a multi-interaction negotiation, and measure self-report data after each interaction.

Another concern is the lack of a control condition in this study. Previous research has shown that mental contrasting promotes integrative bargaining over a control condition (Kirk *et al.*, 2011a). Thus, our present findings may be interpreted as suggesting that MCII adds to an already elevated bargaining success of mental contrasting alone. In a similar fashion, Adriaanse *et al.* (2010) conducted an II versus MC versus MCII study with no control group in Study 2, after concluding that MC demonstrated self-regulatory benefit over control group in Study 1. Nevertheless, future research on the effects of MCII in bargaining should include a control condition where possible, as it minimizes alternative explanations.

A similar issue may be raised regarding our lack of a way to test whether the time spent planning, mentally contrasting, or doing both led to increases in joint gain, and that perhaps a control condition as long as the MCII manipulation is necessary to interpret our findings. While as stated above a control condition would be helpful, past research on both mental contrasting (Gollwitzer *et al.*, 2011; Oettingen, 2000, Oettingen *et al.*, 2001, 2005; summary by Oettingen and Stephens, 2009) and implementation intentions (see Aarts *et al.*, 1999), has demonstrated that the specific structure and content of these self-regulatory strategies – not the time spent developing them – leads to effective goal-directed behavior. These findings, coupled with our current finding that mental contrasting lead to more cooperative implementation intentions, gives us confidence that our effects on joint gain are not due to merely more time spent thinking about the negotiation.

Interpretation of our findings is also limited to bargaining tasks with logrolling potential, as this was the key behavior to reach an integrative agreement in our scenario. It is unclear what effect MCII would have on other bargaining scenarios, such as other ways of finding integrative agreements (i.e. cost-cutting, bridging, or compensation), or in distributive zero-sum situations. While future research should be done to clarify the range of MCII effects on bargaining, we suggest that MCII – because individuals provide their own desired futures, obstacles of present reality, and instrumental behaviors – should be maximally adaptive to other bargaining scenarios.

Interpretation of our findings is further limited by the homogeneity of our pairs – it is unclear how participants would interact had they been given differing self-regulatory exercises. Would someone who has mentally contrasted, and makes concessions, be met with stubbornness by a partner who has only formed if-then plans? Future research that mixes self-regulatory strategies within pairs should further illuminate the positive effects – and limitations – of MCII as a negotiation intervention.

Lastly, it is still an open question how the self-regulatory strategies studied could help people achieve better integration outside the negotiation literature. MCII interventions have already been shown to promote more effective goal pursuit in other real life domains like exercise, healthy snacking, and schoolwork. Could MCII interventions also promote more effective goal pursuit in “mixed-motive” life domains, such as friendships, romantic and family relationships, or teacher-student relations? These involve much give-and-take between one’s own needs and the needs of another, and MCII could ensure that each side’s needs are not taken for granted. Furthermore,

MCII research on the long-term pursuit of social relationships, coupled with research into long-term negotiations, would allow to assess beneficial side effects of MCII interventions, such as increased well being, health, or productivity.

Overall, MCII appears to be a cost- and time-effective pre-negotiation exercise, which has the potential to promote integrative, win-win agreements. Moreover, the procedure of mentally contrasting – elaborating both the positive future aspects of point maximization and the reality standing in its way – leads individuals to experience less effort while negotiating, and perhaps less emotionality. We hope this study, coupled with previous research on the positive effects of mental contrasting on integrative bargaining (Kirk *et al.*, 2011a), is a first steps in a new line of research that combines self-regulation and negotiation theory, and develops effective negotiation interventions.

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