



## Reports

The effects of time perspective and level of construal on social distance<sup>☆</sup>Elena Stephan<sup>a,\*</sup>, Nira Liberman<sup>a,\*</sup>, Yaacov Trope<sup>b</sup><sup>a</sup> Department of Psychology, Tel Aviv University, Tel Aviv 69978, Israel<sup>b</sup> Department of Psychology, New York University, 6 Washington Place, New York, NY 10003, USA

## ARTICLE INFO

## Article history:

Received 22 July 2010

Revised 1 November 2010

Available online 13 November 2010

## Keywords:

Social distance

Temporal perspective

Level of construal

## ABSTRACT

Psychological causes of social distance were examined from the perspective of Construal Level Theory (CLT; Liberman, Trope, & Stephan, 2007), which predicts that temporal distance from and abstract construal of a social target would create perception of social distance. Our studies demonstrate that expectations for temporally remote (versus proximal) social interaction produce greater social distance from a target person, measured as reduced familiarity (Study 1) and as reduced similarity to the self (Study 2). We also show that a more abstract, higher level construal of a social target results in less familiarity (Study 3) and in less allocation of resources (Study 4). The research sheds light on how social closeness can be promoted or hindered by previously unaddressed psychological factors.

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## Introduction

How close we feel to other people is an important determinant of everyday life social interaction. How close we feel to a colleague might determine whether we ask him or her for a favor (e.g., to give us a lift home after a late night lecture), whether we share with him or her important information (e.g., that the roads are blocked due to an accident), or decide to give him or her some of our resources (offer her a pen when noticing that she cannot find one in her purse). What affects social closeness? Social psychological research has identified many factors, including frequency of interaction (we feel closer to those people that we see often), similarity (we feel closer to people whom we perceive as similar to ourselves) and outcome dependence (we feel closer to people on whom we depend) (see, e.g., Zajonc, 1968; Festinger, 1951; Newcomb, 1961; Gaertner et al., 1990; Pettigrew, 1969; Feingold, 1991; Murstein, 1972; Brewer & Miller, 1984; Wilder, 1986). In the present paper, we examine factors that might affect social closeness from the perspective of Construal Level Theory (CLT) of psychological distance (Liberman & Trope, 2008; Trope & Liberman, 2010). To this end, we first describe CLT, and then more specifically examine its predictions regarding the factors that might affect perceived social closeness. We then test these predictions in four studies.

*Construal Level Theory of psychological distance*

We experience only ourselves, here and now. Anything that is not perceived directly is psychologically distant and thus requires mental construal in order to be represented in our mental system (Liberman & Trope, 2008; Liberman, Trope, & Stephan, 2007; Trope & Liberman, 2010). Past and future events, events that are spatially remote, the experiences of other people and hypothetical alternatives to reality are beyond our perception, but they may be construed, that is, predicted, contemplated, remembered or imagined. In CLT, the four dimensions of psychological distance—temporal, spatial, social and hypotheticality—have a common psychological meaning in being different ways of diverging from direct experience. Moreover, psychological distancing is inherently linked to mental construal.

CLT further maintains that objects that are more distant on any dimension will be represented at a more abstract, higher level of construal because higher-level construals capture those features of objects that remain relatively invariant with increasing distance, and thus enable prediction across distance. A long time in advance (i.e., at a large temporal distance), a person might know that he would contact a friend, but the details on how to do that (use a cell phone, send an email or just shout) may be still obscure. High level, abstract features also tend to change less than low level features across social distance. For example, most people use communication devices, but only specific social groups use internet connections. The same is true for hypotheticality. In thinking of a hypothetical situation, one is more likely to plan to contact ones' friend than to send her an email. The effect of psychological perspective on the level of construal was empirically demonstrated for all four dimensions of psychological distance: temporal distance (e.g., increasingly distant activities were described in terms of more abstract, super-ordinate goals; Liberman & Trope, 1998); spatial distance (e.g., distal social interactions were

<sup>☆</sup> The authors would like to thank Yael Biran and Hadar Hershkovitz for data collection. The research reported in this paper was supported by a US–Israel Binational Science Foundation grant #2007247.

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construed more abstractly; Fujita, Henderson, Eng, Trope, & Liberman, 2006); hypotheticality (less probable events were represented in a more abstract fashion; Wakslak, Trope, Liberman, & Alony, 2006); and social distance (actions of a similar other were described in lower-level terms; Liviatan, Trope, & Liberman, 2008).

Construal levels may also affect perceived distance. Construing an object at a higher level connects it to other objects that span across a wider range of points in time, places, social perspectives, and hypothetical situations, thus bringing to mind more distal times, places, people, and counterfactuals. For example, “contacting a friend,” compared to “sending an email,” would bring to mind experiences that occur in a greater variety of points in time and places, and that pertain to a more diverse set of individuals and hypothetical situations. This effect of construal level on perceived psychological distance was demonstrated for temporal distance (abstractly construed actions were perceived as more temporally remote; McCrea, Liberman, Trope, & Sherman, 2008) and hypotheticality (high-level-construal mind-set produced lower probability assessments; Wakslak & Trope, 2009).

According to CLT, because psychological distance is reflected in different dimensions and because these dimensions have similar psychological consequences, these dimensions should be mentally associated. Supporting this hypothesis, Bar Anan, Liberman, Trope, and Algom (2007) demonstrated, using a Stroop task, an automatic association between spatial distance and other dimensions of psychological distance. A possible implication of this association, which we examine in the present research, is that distances affect each other, such that, for example, people whom we expect to meet in the more distant future would seem more socially distant.

In sum, according to CLT, different dimensions of psychological distance—spatial, temporal, social, and hypotheticality—correspond to different ways in which objects or events can be removed from the self here and now, and farther removed objects are construed at a higher (more abstract) level. The various dimensions of psychological distance should therefore be interrelated and similarly affected by level of construal. Of particular relevance here, social distance, as one of these dimensions, should also be affected by other distances and by level of construal.

#### *The relationship between social distance, other distances, and construal level*

Several lines of social psychological research are consistent with CLT predictions regarding the relation of social distance with other distances and with construal. For example, research on the actor–observer bias in attribution has shown that people tend to explain others' behaviors in abstract dispositional terms and one's own behavior in concrete situational terms (i.e., the actor–observer effect; Fiedler, Semin, Finkenauer, & Berkel, 1995; Jones & Nisbett, 1972; Watson, 1982). It has also been shown that familiar people are construed less abstractly than unfamiliar people (Prentice, 1990; Idson & Mischel, 2001). Research on group perception suggests that compared to ingroups, outgroups are construed more schematically; that is, they are perceived as more homogeneous (Park & Judd, 1990; Park & Rothbart, 1982) and are described in more abstract terms (Werkman, Wigboldus, & Semin, 1999). Within the framework of CLT, Liviatan et al. (2008) found that similarity with the target persons produced higher-level representations and judgments of their actions. These findings suggest that social distance from a social target affects the level of construal of that target. Our present research examines the reverse direction of influence, namely, the effect of construal level on social distance.

Also related to the present framework are findings showing that spatial proximity increases interpersonal closeness. For example, Festinger (1951) found that people are more likely to develop close relationships with residents of nearby apartments than with those who

live farther away (see also Festinger, Schachter, & Black, 1950; Priest & Sawyer, 1967; Schiffenbauer & Schiavo, 1976). Notably, spatial distance between residents in these studies was associated with opportunities for exposure, interaction, and exchange. The question of how distance in itself (e.g., being spatially or temporally close or far from another person) affects social closeness has not been addressed.

A recent series of studies on politeness indirectly bears on these questions (Stephan, Liberman & Trope, 2010). The literature on politeness suggests that polite language signifies and creates interpersonal distance: People address strangers more politely than they address friends, and the use of polite, formal language creates a sense of distance (Brown & Levinson, 1987). Consistent with this work, Stephan et al. found an effect of spatial and temporal distance from the target of communication on the use of polite language. For example, participants phrased more polite messages when they assumed that the target person was spatially remote (Study 3) or that the target would read the message in the more distant future (Study 2a). Moreover, Stephan et al. showed that level of construal affects politeness. For example, when participants described a behavior of a social target in higher level terms, they chose to address the target more politely (Study 1).

Stephan et al.'s studies suggest that temporal distance, spatial distance, and high level of construal affect politeness. Because more polite utterances signify and produce social distance (Brown & Levinson, 1987), the studies provide initial evidence in support of the claim that social distance is affected by other distances and by level of construal. This evidence, however, is tentative because although politeness and social distance are related they are not the same. For example, politeness is positive, whereas social distance is ordinarily negative. The question then is whether other variables that reflect social distance would be affected by other distances and by level of construal.

We predicted that temporal proximity and concrete construal would produce a corresponding increase in perceived social closeness as expressed in an increased sense of familiarity, greater ostensible similarity to the self, and in more generous allocation of resources (contributing to socially close rather than distant other). To test these predictions, the present research examines the effect of future temporal distance on perceived familiarity (Study 1) and similarity (Study 2). The research also examines how level of construal affects familiarity (Study 3) and allocation of resources (Study 4). We expect temporal distance and higher level of construal to increase social distance across its various measures.

#### **Study 1: The effect of temporal distance on familiarity**

In this study we examined how the temporal distance of a future meeting with a person affected the perceived familiarity of that person. Participants imagined getting acquainted situations in the near future or the distant future. They received a minimal description of the person they would meet and had to imagine him or her. They then indicated how familiar this person seemed to them. We predicted that expecting a more temporally distant meeting would produce the estimation of lower familiarity (i.e., greater social distance).

#### *Method*

##### *Participants*

Sixty-two students (22 men) from Tel-Aviv University (ages 18–31,  $M = 23$ ) participated in the experiment for a compensation of 12 NIS (at the time, approximately \$3) for a 15-min procedure, which they completed individually.

##### *Procedure*

Participants read six scenarios of getting acquainted situations (e.g., a party) to take place either in the near future (the upcoming weekend) or the distant future (six months later). Temporal distance

was manipulated between participants. The situations were: Meeting a new person at a party, working on related projects, meeting a new neighbor, being asked by a student for one's lecture notes, waiting with a student for a psychology experiment, talking to someone in the cinema. Participants were asked to imagine a new person in each of these situations and describe him or her in writing (e.g., what would a person look like, what does he or she do). After writing these descriptions, participants read the following instructions and completed the familiarity measure: "Please indicate how familiar the person you described seems to be (for example, you may have a sense of knowing the person somewhat or not at all)". Participants reported perceived familiarity with a social target on a scale ranging from 1 (*not at all familiar*) to 7 (*very familiar*).

### Results and discussion

Familiarity scores were normalized for each situation, averaged across the six situations and compared between the two conditions of temporal distance. As predicted, participants that expected to meet the target individuals in the near future perceived them as more familiar ( $M = .20$ ,  $SD = .78$ ) than participants that expected to meet them in the distant future ( $M = -.20$ ,  $SD = .79$ ),  $t(60) = 2.03$ ,  $p < .05$ . Thus, consistent with our hypothesis, temporal closeness of the imagined encounter enhanced the perceived familiarity of the counterpart.

It is interesting to note the relation of these findings to [Alter and Oppenheimer's \(2008a, b; 2009\)](#) conceptualization of familiarity as fluency, which they define as a meta-cognitive ease associated with information processing. In their terms, our findings would suggest that temporal closeness increased the sense of fluency. If, as suggested by CLT, distances are interchangeable and have bi-directional effects, then our finding is consistent with [Alter and Oppenheimer's \(2008a\)](#) results on the effect of fluency on estimations of (spatial) distance.

### Study 2: The effect of temporal distance on similarity

In this study participants anticipated a real meeting with another student and their social distance from that student was operationalized as perceived similarity to the self. Participants signed up for two experimental sessions that were scheduled two weeks apart from each other. They were notified about another person who signed up for the experiment and who was expected to participate either in the temporally near or more distant session. After receiving general information about this person (name, major), participants indicated how similar to themselves the target person seemed to be. We predicted that expecting to meet a person in the nearer future would produce higher ratings of similarity (i.e., lower social distance).

#### Method

##### Participants

Twenty-two psychology students (8 men) from Tel-Aviv University (ages 18–27,  $M = 21.3$ ) enrolled in an Introductory Psychology course participated in the study for course credit. Participants completed the procedure individually.

##### Procedure

Participants signed up for two sessions of the experiment, scheduled two weeks apart from each other. Upon the beginning of the first session, participants were presented with a minimal description and a photograph of a student who allegedly signed up for the same study (e.g., Diana, a sophomore psychology student, age 24), whom they were supposed to meet either during the same session (the proximal future condition) or at the next session, two weeks later (the distant future condition). We asked participants to indicate to what extent they expected the person they would meet to

be similar to themselves in general and in terms of background, attitudes and personal dispositions, using scales that ranged from 1 (*not similar at all*) to 7 (*very similar*). After completing the questionnaire, participants were told that they would not actually meet the person and were debriefed regarding the procedure and the purpose of the study.

#### Results

The similarity ratings were averaged across scales ( $\alpha = .80$ ) and compared between the two temporal distance conditions. As predicted, similarity ratings were higher in the near future condition ( $M = 3.9$ ,  $SD = .9$ ) than in the distant future condition ( $M = 3.0$ ,  $SD = 1.0$ ),  $t(20) = 2.3$ ,  $p < .05$ .

The results of Studies 1 and 2 suggest that temporal distance from a target person produces an increase in social distance. A person expected to be met in the more distant future was perceived as less familiar and less similar to the self. Importantly, whereas Study 1 examined hypothetical situations, Study 2 created a realistic expectation to meet another student during the experimental session in the near versus the distant future. Studies 3 and 4 examined whether high level construal, like temporal distance, would produce a sense of social distance.

### Study 3: The effect of level of construal on familiarity

In this study, participants provided either low-level or high-level descriptions of targets' behavior and judged the extent to which each social target seemed familiar to them. We predicted that a higher level of construal would produce an increase in the perceived social distance between the self and the other person, which would be reflected in a reduced sense of familiarity.

#### Method

##### Participants

Thirty-eight undergraduate students (11 men) from Tel-Aviv University enrolled in an Introductory Psychology course participated in the study for course credit (ages 18–31,  $M = 23.6$ ).

##### Procedure

Participants read short descriptions of people performing actions. Some participants then described these actions in high-level construal terms, whereas other participants described the same actions in low-level of construal terms. The questionnaires consisted of three parts, presented in counterbalanced order. In the first part of the questionnaire, participants described either "why" (i.e., high level construal) or "how" (i.e., low level construal) a target person performed an action. For example: "Oliver is buying groceries in a store. Please try to imagine the situation and write why (how) Oliver is doing that" (for a similar manipulation see [Lieberman, Trope, McCrea, & Sherman, 2007](#)). The other actions in this part were: Being in a hurry to a class, looking for a book in the library, buying lunch in the cafeteria, ordering a book, scheduling new courses.

In the second part of the questionnaire participants provided either dispositional (i.e., high-level) or situational (i.e., low-level) explanations for an actor's behavior ([Nussbaum, Trope, & Liberman, 2003](#)). For example: "Claire is feeding a stray cat. What in Claire's personality, character or dispositions (in the situation or the setting) could explain her behavior?" The other actions in this part were: Inviting guests to a party, smoking in the park, reading a book on Tibet, speaking loudly on the cell phone, explaining an assignment to a classmate.

In the third part of the questionnaire, a target person's action was described either in terms of broad object categories (i.e., high-level) or narrow categories (i.e., low-level; see [Stephan et al., 2010](#), for a similar

manipulation of level of construal). For example, “Anna is ordering a dessert (versus, a cake and an ice-cream). In this part of the questionnaire, participants did not write anything. The other actions in this part were: Practicing dances of the 1960s (vs. waltz, rumba), buying make up (vs. lip-gloss and mascara), ordering Italian food (vs. pizza and antipasto), showing photos from Scandinavia (vs. Sweden and Norway), and buying clothes (vs. dress and t-shirt).

There were a total of 18 items (six items in each of the three parts). After each item, participants indicated how familiar the described person seemed to be on a scale that ranged from 1 (*not at all familiar*) to 7 (*very familiar*). The instructions regarding familiarity were identical to those in Study 1. To examine possible effects of valence, we also asked participants to indicate how nice, friendly and intelligent the target person seemed to be on scales that ranged from 1 (*not at all*) to 7 (*very much*).

## Results

The familiarity ratings were normalized within each item and averaged across items within each construal level condition (high vs. low) and type of manipulation (how/why, situational/dispositional attribution, broad/narrow categories). Familiarity ratings were then submitted to a 2 (level: high vs. low)  $\times$  3 (manipulation type: how/why vs. situation/personality vs. narrow/broad categorization) ANOVA, with only the first variable manipulated between participants. As predicted, participants perceived greater familiarity with social targets that were construed at a low level ( $M = .28, SD = .69$ ) as compared to a high level ( $M = -.25, SD = .80$ ),  $F(1, 36) = 4.73, p < .05$ . No other effects were significant,  $F_s < 1$ . Thus, as predicted, across the three manipulations of construal level, lower levels of construal resulted in a perception of less social distance as revealed in higher ratings of familiarity.

We also examined whether the manipulation of construal level affected the perceived valence of the social target. We averaged participants' ratings on the scales measuring how nice, friendly, and intelligent the social target seemed to be (alphas range .6–.8, for different items). We found no significant effect of construal level on target's perceived valence,  $F(1, 36) = 2.17, p = .15$ . We address this finding in the [General discussion](#) section.

## Study 4: The effect of construal level on resource allocation

In this study we operationalized social distance as the amount of resources allocated to a partner in a dictator game, based on the well supported finding that feeling close to a person promotes allocation of resources to him or her (e.g., Nadler, 1999; Dovidio, Gaertner, Validzic, Johnson, & Frazier, 1997; Hoffman, 1996). We used the dictator game paradigm, where one participant (“a dictator”) receives an amount of goods to withhold or to share with a social target (e.g., Bolton, 1998; Forsythe, 1994). To examine the effect of construal level, we asked participants to read scenarios and to describe the actions of a social target in high-level “why” terms or lower-level “how” terms. We measured the percentage of goods participants were willing to allocate to that person. A pre-test revealed substantial interpersonal variance in individuals' willingness to share resources with others and therefore we decided to manipulate level of construal *within* participants. Each of the two versions of the questionnaire had both high level “why” items and low level, “how” items, presented in a semi-random order. We predicted that participants would be willing to share more resources following lower-level action identifications, as compared to higher-level action identifications.

## Method

### Participants

Forty university students volunteered to participate in a study on imagining social situations (ages 23–30,  $M = 26.4$ ).

## Procedure

Participants were asked to imagine seven scenarios in which they were awarded a valuable prize (e.g., 20 free-coffee coupons for a local cafeteria), while a fellow student in the same situation received no award (the materials, translated from Hebrew, are presented in [Appendix A](#)). The scenarios were pretested to yield a reasonable allocation of resources. Participants were asked how much of the prize they would be willing to give away in favor of the other student. To manipulate level of construal, participants first wrote either “how” (low level construal) or “why” (high level construal) the fellow student performs an action (e.g., Liza is waiting in line to buy coffee in the cafeteria. How/why is she doing that?). Level of construal was manipulated within subjects, such that in one version of the questionnaire, there were four high-level “why” items and three low-level, “how” items, whereas in the complementary version of the questionnaire, the level of construal of each item was reversed.

## Results

For each participant, we computed the average percentage of allocated resources in “why” items and in “how” items and compared these indexes. As predicted, participants allocated more resources to the other person after they provided low level “how” descriptions of him or her ( $M = 43.86\%, SD = 15.13$ ) as compared to high level “why” descriptions ( $M = 26.69\%, SD = 11.89$ ),  $t(39) = 5.20, p < .001$ . In sum, the results of Studies 3 and 4 suggest that higher levels of construal produce a perception of greater social distance, indicated by reporting less familiarity and allocating fewer resources to another person.

## General discussion

The present research explored psychological causes of social distance from the perspective of the Construal Level Theory (Liberman & Trope, 2008; Liberman et al., 2007; Trope & Liberman, 2010). Specifically, we examined how distance in time from the expected social interaction and level of construal of a social target affect social distance. Building on CLT, we predicted that temporal distance and more abstract construal would enhance social distance. Findings of four studies using various measures of social distance support this prediction, showing that distance in time from the expected social interactions results in perceiving the social target as less familiar (Study 1) and less similar to the self (Study 2). We also found that a more abstract, higher level construal of a social target resulted in perceptions of lower familiarity (Study 3) and in a less generous resource allocation (Study 4). The research sheds light on how social closeness can be promoted or hindered by previously unaddressed psychological factors.

Our findings are consistent with CLT, providing further evidence for the interrelations among dimensions of psychological distance (here, temporal distance and social distance) and the effect of abstract construal on distancing. The current results are also consistent with findings on politeness—a signifier and regulator of social distance—according to which politeness affects and is affected by temporal distance and level of construal (Stephan et al., 2010). Moreover, we document the effects of temporal perspective and construal level on an extended array of variables (familiarity, similarity and resource allocation), commonly used in social psychology as instances of social distance. Importantly, both Stephan et al. (2010) and the current results show effects on social distance of construal level and of distancing on other dimensions.

Notably, the measure of social distance used in Stephan et al. (i.e., politeness) correlates positively with valence (i.e., being more polite indicates *more* distance and is generally considered *more* positive), whereas the measures we use here correlate negatively with valence (e.g., allocating less resources indicates *more* distance and is *less* positive). This indicates that the effects of CLT are not simply effects on valence. Indeed, in Study 3 our manipulation of distance did not reliably

affect valence of the target person. Although the valence of a person (e.g., liking vs. disliking a target person) is strongly associated with feeling close to him or her, the effect of construal level and of distancing on closeness would not necessarily be mediated by valence.

It is interesting to consider the current results in view of earlier finding by Levy, Freitas, and Salovey (2002), which showed that individual differences in the tendency to represent action in abstract terms, as measured by the Behavior Identification Form (Vallacher & Wegner, 1989), was associated with perceptions of similarity with others, empathy, willingness to help, and actual helping. We think that it is important to distinguish between the level of construal of a target, which was manipulated in our studies, and a disposition to construe on a high level one's own and another person's action, which was measured in Levy et al.'s studies. Possibly, if the construal of both the self and the target varies, then higher level of construal would be associated with more empathy and helping, because values of humanism and benevolence, which are high level constructs, would be activated. On the other hand, when the construal of only the target varies, then a lower level of construal would create a sense of more closeness to the self. Obviously, more research is needed to further explore this possibility.

## Conclusion

The present research shows that social distance from an individual is affected by temporal distance of the expected interaction and level of construal of the target person. These results shed light on previously unexplored variables that might affect social closeness and provide additional support for CLT's assumption that the different dimensions of psychological distance are interrelated and also related to levels of construal.

## Appendix A. Resource allocation scenarios (Study 4)

### Scenario 1

"Imagine yourself in the library. The only other person there, Anna, is reading a book. Please describe why (how) Anna is doing that: \_\_\_\_  
Now, imagine that you were awarded with 10 new surplus books by the library. You can either keep the books to yourself or give some to Anna. Please indicate whether you'd be willing to give Anna any number of the books.\_\_\_\_"

### Scenario 2

"Imagine yourself waiting in line to buy coffee in the cafeteria. The only other person, Liza, is next in line after you to get coffee. Please describe why (how) Liza is waiting for coffee: \_\_\_\_  
Now imagine that as you approach the counter, coffee it runs out. The owner of the cafeteria compensates you (but not Liza) with 20 free-coffee coupons. You can either keep the coupons to yourself or give some to Liza. Please indicate whether you'd be willing to give Liza any number of the vouchers.\_\_\_\_"

### Scenario 3

"Imagine yourself making copies of some materials. The only other person there, Danny, just arrived to copy some notes. Please describe why (how) Danny is waiting to use the copy machine: \_\_\_\_  
Now imagine that you find five coins for a copy machine on the floor. You can either keep the coins or give some to Danny. Please indicate whether you'd be willing to give Danny any number of the coins.\_\_\_\_"

### Scenario 4

"Imagine that you arrive at a theatre, but the performance was cancelled. Another person who arrived to see the same play, Diana, is looking for the information about it. Please describe why (how) Diana is trying to find out about the play: \_\_\_\_

Now imagine that after complaining to the directors, you (but not Diana) were offered eight tickets to other performances. You can either keep the tickets to yourself or give some to Diana. Please indicate whether you'd be willing to give Diana any number of the tickets.\_\_\_\_"

### Scenario 5

"Imagine that you are at a music shop in midst of a clearance sale. Imagine Jonathan who is entering the shop. Please describe why (how) Jonathan is getting to the shop: \_\_\_\_  
Now imagine that the shop owner granted you with fifteen CDs for free. In a minute Jonathan arrives but no stock left over. You can either keep all the awarded CD's to yourself or give some to Jonathan. Please indicate whether you'd be willing to give Jonathan any number of the CD's.\_\_\_\_"

### Scenario 6

"Imagine that you came across art campaign by the campus. The only other person Emma is approaching the campaign stand. Please describe why (how) Emma is getting closer to the stand: \_\_\_\_  
Now, imagine that you received the last set of 10 markers from the advertisers, while no more left for Emma. You can either keep the markers or give some to Emma. Please indicate whether you'd be willing to give Emma any number of the markers. \_\_\_\_"

### Scenario 7

"Imagine that you arrived at a DVD library but the owner was about to close two hours earlier due to some necessity. The other person, Joshua is approaching the library. Please describe why (how) Joshua is getting to the library. \_\_\_\_  
Now imagine that the library owner offered you with ten vouchers for the DVD lease as a compensation for closing earlier. Joshua arrived when the owner just locked the library and got no compensation. You can keep all the vouchers or give some to Joshua. Please indicate whether you'd be willing to give Joshua any number of the vouchers. \_\_\_\_"

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