Cultural generality of the integration of obligation and other motives

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The purpose of the present study is twofold. One is to assess the cultural generality of the information integration rule for moral obligation. The other is to examine how people integrate moral obligation and self-interest. Two studies were implemented following the functional measurement methodology with Chinese samples. Study 1 replicated the results of an American sample on the integration of actor's obligation and other's need to assess the cultural generality of information integration rule. Study 2 involved a new test of the integration of actor's obligation and actor's need. The result of Study 1 showed that the integration rule of actor's obligation with other's need was of an adding-type (i.e., adding or equal weights averaging), which is consistent with previous work with American samples. The results of Study 2 showed that the integration of actor's obligation and actor's need follows an adding-type rule.

The purpose of the present study is twofold. One is to assess the cultural generality of the information integration rule of actor's obligation and other's need. The other is to examine how people integrate moral obligation and self-interest.

Integration of moral obligation and self-interest is a central component for everyone's life. Self-interest is a genuine motive to act that all humans possess. However, the society becomes fragile if free actions are wholly self-interest oriented. An obligation, to meet the principle of justice or fairness and the principle of solidarity or care, is another major motive

which functions to hold a family, an organization, and a society bonded. However, conflicts among goals of self-interest, justice, and care never stop in anyone's life, regardless of private or public life. The investigation of how people integrate self-interest and obligation is therefore important not only at individual level but also at group and societal level.

Previous studies on obligation conflicts have indicated that obligations are important concerns for people's action (e.g., Keller et al., 1998; Neff, Turiel, and Anshel, 2002). Also revealed by previous studies was the significance of cross-cultural differences (e.g., Fuligini, Tseng, & Lam, 1999; Hofstede, 1980; Keller et al., 1998; Miller and Bersoff, 1998; Moghaddam et al., 2000; Yang, Chen, Choi, & Zou, 2000). A common feature in previous studies on obligation conflicts is the integration of multiple informers. For instance, Neff, Turiel, and Anshel (2002) required participants to make priority judgments in the conflict of personal need and interpersonal obligation. They found that a large majority of participants judged that personal needs should be subordinated to interpersonal obligations. Miller and Bersoff (1992) asked participants to give priority in the conflict of justice obligation and interpersonal obligation. They found most Indians gave priority to the interpersonal obligation, whereas most Americans gave priority to the justice obligation. Miller and Bersoff (1998) asked participants to judge the responsibilities to help a needy other based on the types of relationship and the degree of liking. They found liking had no impact on Indians' perceptions of the moral responsibility to help in any of the cases under consideration or on Americans' perceptions of the moral responsibility of parents. Although integration of multiple informers is general in studies of obligation, few studies have considered how integration occurs.

This problem can be studied by Information Integration Theory and the functional measurement methodology (Anderson, 1981, 1982). Cognitive analysis related to the integration of obligation and other motives has been studied by Anderson and Verdi (Anderson, 1996) and Armstrong (1984). Anderson and Verdi found that other's need was averaged with actor's need but added to actor's obligation. Moreover, Armstrong (1984) found that other's need and actor's obligation were integrated by an averaging rule. The two studies showed that the information integration of moral obligation and other motives follows an adding-type rule (i.e., adding or equal weights averaging). Nevertheless, there is no information on the cultural generality of these information integration rules. Therefore, this topic deserves attention, and this was the aim of Study 1. How people integrate moral obligation and self-interest, an everyday life conflict situation, was examined in Study 2.

STUDY 1

Material. The design was a 3 (actor's obligation)× 3 (other's need) full factorial design, to which the two one-factor sub-designs were added. The stimuli were designed based on the results of a pre-study, which was a survey on the obligation in family and the favorite activities in school life. Three levels of other's need described high, medium, and low importance of other's need. They were, from high to low level, "something is bothering mother these days," "mother hopes her children come home and help her with the house cleaning," and "mother hopes her children come home and accompany her shopping." Three levels of actor's obligation illustrated high, medium, and low felt obligation to go home. They were, from high to low level, "it has been three weeks since I came home to see mother last time," "it has been two weeks since I came home to see mother last time," and "it has been one week since I came home to see mother last time." An example of two-factor design is "Isabella, living at Taipei, is an undergraduate student of National Yunlin University of Science and Technology. One day in the evening, Isabella gets a phone call from her mother. Isabella's mother inquires her that whether or not she will come home this weekend. Isabella thinks 'Something is bothering mother these days. And it has been three weeks since I came home to see mother last time.'" Examples of single-factor design are: "Isabella, living at Taipei, is an undergraduate student of National Yunlin University of Science and Technology. One day in the evening, Isabella gets a phone call from her mother. Isabella's mother inquires her that whether or not she will come home this weekend. Isabella thinks 'Something is bothering mother these days.'" and "Isabella, living at Taipei, is an undergraduate student of National Yunlin University of Science and Technology. One day in the evening, Isabella gets a phone call from her mother. Isabella's mother inquires her that whether or not she will come home this weekend. Isabella thinks 'It has been three weeks since I came home to see mother last time.'"

Participants made judgments about how inappropriate they thought it was that Isabella would not go home that weekend on a 1-20 rating scale, 1 standing for "not inappropriate at all" and 20 for "very inappropriate." There were 3 replications of the 15 cases.

Procedure. Participants were run singly. They went through a familiarization phase, during which they were given explanations by an experimenter about whole process, including scenario background, stimulus

informers, judgments to be made, the rating scale, and judgment examples, by using a 15' laptop.

In the experimental phase, participants read the instruction, took three practices, and then made 45 judgments. The computer program presented stimuli with a different random order for each participant. The practice rating lasted 30 seconds. During the practice trials, participants were allowed to compare their responses and to modify them if needed, a procedure which helps them to calibrate their rating scale. Each sentence of scenarios was showed on the computer screen with a 3, 2, and 1 second interval, in the first, second, and third replication, respectively. There was a 2-second delay before participants could give the rating. The time interval between two scenarios was 2 seconds. The aims of above devices were to lead participants to be thoughtful about their judgments. After a one minute break, the next replication was implemented. Participants took, on average, approximately 40 minutes to complete the whole experiment.

Participants. Thirty undergraduate and graduate students, all Chinese, participated in this study. They were recruited from college campus and received a reward of 100 NT dollars after finishing the experiment. Participants comprised 15 females and 15 males between 20 to 30 years of age ($M = 22$, $SD = 2.7$).

RESULTS

The integration of actor's obligation with other's need follows an adding-type rule. The relevant data are in Figure 1. The solid curves represent the mean inappropriateness judgment of not returning home from the two-factor design. Main effects of both factors are significant, $F(2, 28) = 49.27$, $p < .001$, eta-square = .78; $F(2, 28) = 87.95$, $p < .001$, eta-square = .86, for other's need and actor's obligation, respectively. These three curves look essentially parallel, and this graphical appearance of parallelism is supported by the nonsignificance of the interaction, $F(4, 26) = 0.70$, $p > .05$, eta-square = .10. The parallelism implies that actor's obligation and other's need are integrated by an adding-type rule.

Further evidences support an averaging instead of adding rule. The averaging model predicts that the slope of the single-factor curve should be steeper than the two-factor curves (Anderson, 1982). As shown in the top panel of Figure 1, the dashed curve, which represents responses based on the other's need alone, crosses over the lowest solid curve. This crossover is confirmed by the significance of the interaction effect when other's need only is included as another level of actor's obligation in analysis of

variance, $F(6,24) = 10.64$, $p < .001$, eta-square = .73. The results indicate that the integration of actor's obligation and other's need followed an averaging rule.
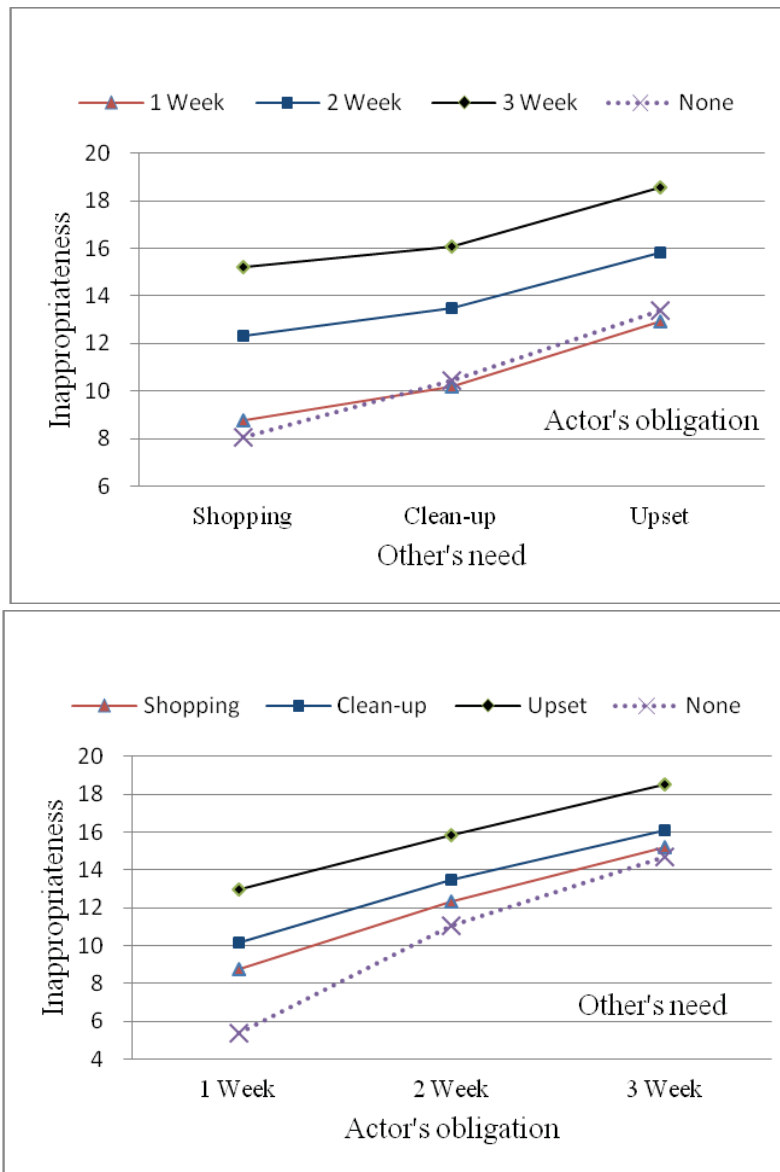
 Figure 1. Assigned inappropriateness as a function of actor's obligation and other's need.

STUDY 2

Material and Procedure. The design was a 3 (actor's obligation) × 3 (actor's need) full factorial design, to which the two one-factor sub-designs were added. The stimuli were designed based on the results of a pre-study which was a survey on obligations in family and favorite personal activities in school life. Three levels of obligation described high, medium, and low closeness. The high closeness condition was "the relative is Peter's parents." The medium condition was "the relative is Peter's uncle and aunt." The low condition was "the relative is Peter's distant relative." The three levels of actor's need described high, medium, and low importance of personal activities. The high condition was "Peter has to prepare a test that day." The medium condition was "Peter would like to attend his class party that day." The low condition was "Peter would like to see a movie that day." An example of two-factor design is "Peter's parents are going to move this Sunday. They hope Peter help their moving because they are short of hands. However, Peter declines the request for that he would like to see a movie that day." Examples of single-factor design are: "One of Peter's relatives is going to move this Sunday. S/He hopes Peter help her/his moving because s/he is short of hands. However, Peter declines the request for that he would like to see a movie that day." and "Peter's parents are going to move this Sunday. They hope Peter help their moving because they are short of hands. However, Peter declines the request for some reason."

Participants judged how appropriate is that Peter rejects the request based on who were the relatives and the reasons on a 1-20 rating scale, 1 standing for "very inappropriate" and 20 for "very appropriate." There were three replications of the 15 cases. The experiment procedure was identical to Study 1, except that participants were run as a group.

Participants. Twenty-five volunteers, recruited in the author's class, took part in the study. They all were undergraduate students and received a chocolate bar as gift before experiment. Participants comprised 19 females and 6 males between 20 to 23 years of age ($M = 20$, $SD = 0.7$). They are all Chinese in Taiwan.

RESULTS

The integration of actor's obligation and actor's need follow an adding-type rule. As shown in Figure 2, the solid curves represent the mean appropriateness judgment of rejecting the request from the two-factor

design. Main effects of both factors are significant, $F(2, 23) = 65.86$, $p <$ .001, eta-square = .85; $F(2, 23) = 40.44$, $p < .001$, eta-square = .78, for actor's obligation and actor's need, respectively. These three curves look essentially parallel, and this graphical appearance of parallelism is supported by the nonsignificant interaction effect of the two factors, $F(4, 21) = 0.66$, $p > .05$, eta-square = .11. The parallelism implies that obligation and self-interest are integrated by an adding-type rule.
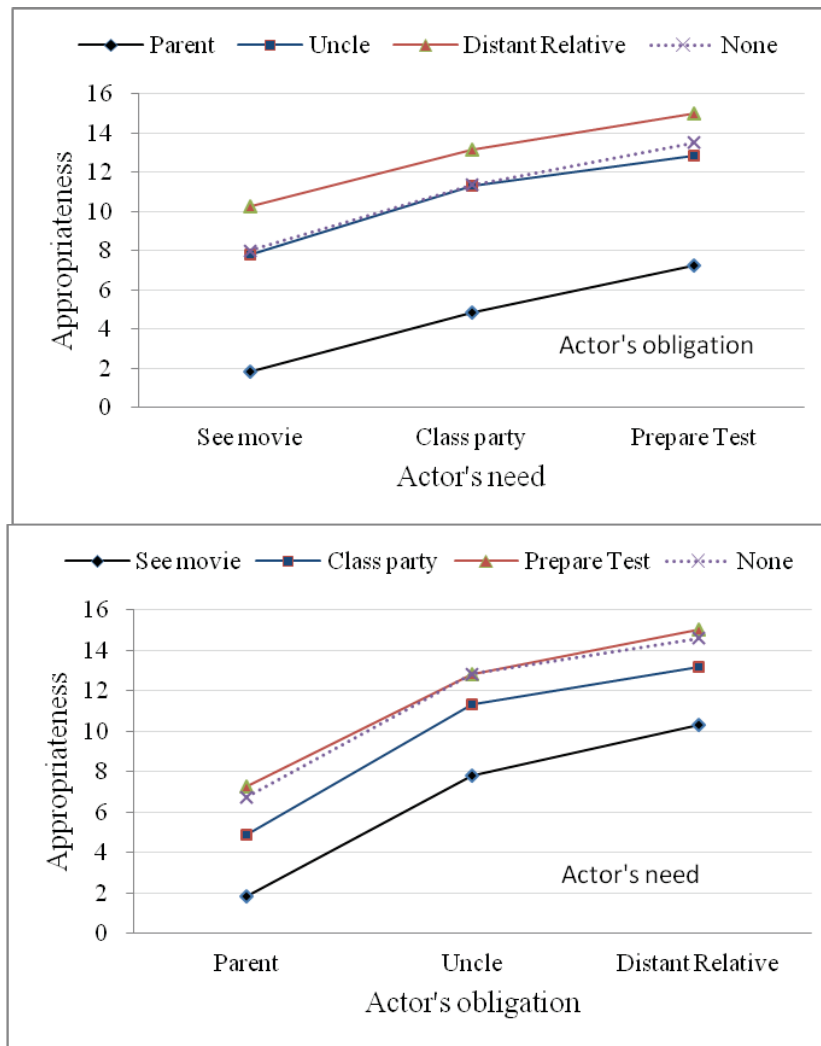

Figure 2. Assigned appropriateness as a function of actor's obligation and actor's need.

Further evidences support an adding instead of averaging rule. As shown in the top panel of Figure 2, the dashed curve, which represents responses based on actor's need alone looks parallel to instead of crossing over the solid curves. This parallelism is confirmed by the nonsignificance of the interaction effect when actor's need only is included as another level of actor's obligation in analysis of variance, $F(6, 19) = 0.69$, $p > .05$, eta-square = .18. The results indicate that the integration of actor's obligation and actor's need followed an adding rule.

DISCUSSION

The results in Study 1 showed that actor's obligation and other's need were integrated by an adding-type rule (i.e., adding or equal weights averaging). This finding is consistent with the works of Anderson and Verdi (Anderson, 1996) and Armstrong (1984). The results suggest that the integration rule has cross-cultural generality. The results of Study 2, a conflict situation, demonstrated that actor's obligation was integrated with actor's need by an adding-type rule. The finding is similar to that of Anderson and Verdi (Anderson, 1996) which also utilized a conflict situation.

Although both studies are associated with the integration of obligation, different integration rules were found: Study 1 showed an averaging rule, but Study 2 showed an adding rule. The different rules may derive from that Study 1 involved information about actor and other, but Study 2 had information about actor only. Another possibility is that an averaging rule was covered by imputation effects (Anderson, 1996) in Study 2. The single-factor design "*One of Peter's relatives* is going to move this Sunday…." and "…However, Peter declines the request *for some reason*." might hint participants to think of a certain relative and reason. As shown in the top panel of Figure 2, the curve of unspecified relative is nearly identical to the curve of uncle. When participants imputed a value virtually equal to the unspecified level and integrated that imputed value, an averaging rule cannot separate from an adding one. Further studies are anticipated to confirm the integration rule of actor's obligation and actor's need.

The differences of experimental design between Study 1 and Study 2 are worth of mention. Some subjects may be inattentive or confused in batch running; run subjects individually rather than in batches helps eliminate wandering attention and carelessness (Anderson, 2001). In the present study, while participants were run individually in Study 1 and as a group in Study 2, neat parallelism of factorial plots were found in both studies. The

results suggest that the experimental procedure was well controlled and robust in group situation, given the parallelism theorem (Anderson, 1981) was applied. There were two devices that were beneficial for procedure control. One is that experimenters explained the whole process and all materials for participants before they did computerized task. The purpose of this part is to eliminate the confusion about procedure and material as possible. The other device is a standard procedure controlled by computer. This includes (1) a different random order of stimuli presentation for each participant, (2) at least 30 seconds for three judgment practices, (3) slow down the presentation of scenarios to be judged, (4) a time lag for rating, (5) a time lag between two scenarios and between two replications. This device may help eliminate rush and carelessness to a certain extent.

A basic issue of obligation study is how people integrate multiple motives in conflict. The problem cannot be investigated adequately unless concept-instance confounding is solved (Anderson, 2001). Concept-instance confounding occurs when results derived from a single stimulus exemplars are assumed to hold for the concept. For example, in order to examine the priority given to justice and interpersonal expectations, Miller and Bersoff (1992) employed "take another man's train ticket from the man's coat pocket without the man's permission" to represent the concept of justice breach and employed "not deliver the wedding rings to his best friend's wedding" to represented the concept of care breach. The analysis of the priority in conflict of justice and care was affected by the arbitrary choice of the instances. If the concept of breach of care was represented by another exemplar, say "not attend a friend's wedding," the results might be different. The egregious pitfall of concept-instance confounding is that the difference in response to the levels of a variable may be small or large, depending on arbitrary choice of levels, which influences the analysis of relative importance of variables. Which motives are more important in obligation conflict therefore can't be measured correctly because the motive concept is confounded with its specific levels. Concept-instance confounding thus may vitiate conclusions of previous studies.

This problem can be solved by the functional measurement methodology and Information Integration Theory (Anderson, 1982, 1996). With factorial designs, as showed in this study, cognitive schemas used by social actors in obligation conflict can be specified. Then, if an averaging rule is found, the averaging model can solve this confounding by separating the importance weight of the variable itself from the particular values of the particular instances used to instantiate that concept in experiments. In Study 1, for example, the relative importance of actor's obligation to other's need can be measured without concept-instance confounding by the averaging

model because participants used an averaging rule to integrate the two variables. Therefore, identifying the information integration rule used by social actors provides an important foundation to understand the priorities in obligation conflict.

In conclusion, the examination of how people integrate multiple motives with the functional measurement methodology and Information Integration Theory (Anderson, 1981, 1982, 2008) is an essential avenue to comprehend obligation conflict, regardless of the study of dominant motives or cross-cultural differences. By using functional measurement methodology and the averaging theory, some cross-cultural comparison issues could be studied. For example, what factors reinforce or attenuate intensity of people's felt obligation, e.g., relationship and indebtedness, and how people integrate conflict obligations, e.g., family and work obligations. The two issues are not only essential but also likely to involve cross-cultural differences and deserve future endeavors.

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