Achieving Relationship Harmony in Small Groups

LUN Miu-chi

A Thesis Submitted in Partial Fulfillment

of the Requirements for the Degree of

Master of Philosophy

in

Psychology

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August 2004

Acknowledgment

I would like to express my heartfelt gratitude to my thesis supervisor, Professor Michael Harris Bond, for his unfailing support and guidance throughout this two-year journey. I would also like to thank Professor Paul John Taylor for his invaluable suggestions and comments at the beginning of this study. I am grateful to Ms. Chun Li, Ms. Isabel Ng, and Dr. Virginia Kwan for assisting me to understand about the data set when I first got into this project. Thanks also to my thesis committee, Professor Winton Au and Professor Darius Chan, for spending time and effort to read and comment on this thesis. I am also indebted to Dr. David A. Kenny and Professor Wai Chan for their advices on the statistical analyses of the data. I feel blessed to have got all kinds of assistance throughout the process of finishing up this thesis.

Special thanks to the "mini-gang", especially to Natalie Hui for providing insightful ideas to my conceptualization of the topic, and to Rita Law for proofreading the earlier versions of this paper. I am also grateful to my family for being so supportive and understanding to me throughout this two-year academic endeavor.

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Abstract

This study investigated the concept of relationship harmony in small groups which consisted of university students. Using the Five Factor Model of personality, relationship harmony was found to have different personality correlates from interpersonal attraction. Moreover, relationship harmony and interpersonal attraction were found to differentially relate to two aspects of an individual's experience of group cohesiveness: the perception of positive group interaction and the attraction to the group, respectively. Based on the input-process-output model of group performance, group cohesiveness was tested for its mediating role on the relationship between the relational constructs and group performance. However, due to high level of subjectivity, the construct of attraction within the group could not be used in the group-level analysis. On the other hand, though positive group interaction was objective enough to be a group-level construct, it did not mediate the relationship between relationship harmony and group performance. According to the findings, future research directions concerning relationship harmony were suggested.

概要

是項研究探討了在大學生所組成的小組中人際關係和諧的概念。結果顯示人際關

係和諧與人際吸引和五大性格向度的關聯並不相似，而且兩者分別與小組的團體

凝聚力的兩個範疇有著不同的關聯：人際關係和諧關係到組員對小組的正面行為

的體驗，而人際吸引則與小組對組員的吸引力有關。利用探討小組表現的「輸入-

過程-結果」模型，本研究亦測試了此團體凝聚力的兩個範疇能否解釋小組中的人

際關係和諧與人際吸引對小組表現的影響。由於團體凝聚力中的小組對組員的吸

引力在本質上較為主觀,因此它未能被利用到小組層面的分析。至於團體凝聚力中

的小組正面行為雖可被用於小組層面的分析，但它未能解構人際關係和諧對小組

表現的影響。基於是項研究的結果，本文提供了更深入了解小組中人際關係和諧

的概念的研究方向。

Chapter 1: Introduction

Studies on interpersonal relationships have recently drawn considerable interest in the field of social psychology. Topics like relationship formation, relationship development, relationship quality, and so on have been covered in many different researches (Duck, 1998). Chinese have a deep cultural heritage on formulating interpersonal relationships (see Gabrenya & Hwang, 1996), which potentiates Chinese conceptions to play an important role in the interpersonal relationship research.

Relationship Harmony

Harmony has long been valued in Chinese culture, particularly in the traditional Confucian ideology. It is construed as an ideal state of how we human interact with the nature, the society, and the other human fellows in the Confucian ideology. The level of harmony among individuals is particularly interesting, for its achievement is necessary for other sorts of human achievements. After all, no one could really achieve anything when we are all too busy spending resources and time on wars and on-going conflicts among ourselves.

To illustrate with an example, Gabrenya and Hwang (1996) discussed in detail about the importance of harmony to social relationships and the way social harmony is maintained in Chinese culture. In particular, the Confucian Doctrine of *Zhong Yong* (the Mean) ensures harmony in social relationships, especially that within the in-group. Conflicts are often avoided rather than resolved in order to preserve relationship harmony and the face of the in-group members.

Previous Research on Relationship Harmony

In addition to the theorizing of relationship harmony as an essential part of our understanding of Chinese culture, it is also important to study this construct

through scientific investigation because of its potential contributions to human lives. Such endeavors have recently emerged in the field of psychology. For instance, Kwan, Bond, and Singelis (1997) found that both in the United States and in Hong Kong, relationship harmony and self-esteem jointly predicted the level of life satisfaction among college students. Relationship harmony was found to be relatively more important as a predictor of life satisfaction for the Hong Kong sample than the American Sample, a result which was consistent with the theory of cultural collectivism.

In Kwan et al. (1997)'s study, relationship harmony was defined as "the balance achieved in relationships" (p.1039). They operationalized relationship harmony as the average of the level of relationship harmony within the five most important relationships of an individual. It was considered as a general relationship harmony which contributes to the level of life satisfaction. Given the evidence of the functional significance of general relationship harmony to our psychological well-being (see also Stewart, Rao, Bond, McBride-Chang, Fielding & Kennard, 1998 for more empirical evidence), it becomes both sensible and necessary to answer the question of what determines how we achieve relationship harmony with the others.

As shown by Kwan et al. (1997)'s findings, general relationship harmony is positively related to psychological variables like interdependent self-construal (Markus & Kitayama, 1991), and Extraversion and Agreeableness as measured by the NEO-FFI (Costa & McCrae, 1992). These findings have provided some insights to the subsequent research direction concerning the question.

Another research endeavor related to the question was made by Li, Kwan, and Bond (1999). They explored the nomological network of relationship harmony. Using the Sino-American Personality Perception Scale (SAPPS; Yik & Bond, 1993),

they found that self-reported Openness, Emotional Stability, Helpfulness, Restraint, Extroversion, and peer-reported Extroversion correlated with the level of general relationship harmony. Moreover, collective self-esteem, as measured by the Collective Self-Esteem Scale (CSES; Luhtanen & Crocker, 1992), was found positively related to the level of general relationship harmony. These findings also enriched our understanding about the psychological predictors of general relationship harmony.

However, these studies did not directly address the question of what contributes to the achievement of relationship harmony among people, especially within a small group setting. In particular, in any context where the achievement of a common goal together with the others is the purpose of the group, it becomes important to know whether the members in the group can work together harmoniously. Otherwise, conflicts among group members may impair group performance (Levine & Moreland, 1990). Relationship harmony may therefore be an anchor for the achievement of common goals among individuals in a group.

Relationship Harmony in Groups

In light of the significance of relationship harmony in terms of people's goal achievement, especially achieving goals with the others, Li (1999) explored the nomological network of relationship harmony in a small group setting. In this study, students of a social psychology course were asked to form groups of five or six so as to complete three group assignments. They were asked to rate the level of relationship harmony with each of the other group mates in the group after a three-month collaboration. Personality measures were also assessed for each student so as to investigate the psychological correlates of relationship harmony in a work group.

As part of the analyses, Li (1999) created two different indices: (1) an averaged peer-given relationship harmony index by averaging the ratings they received from others and (2) an averaged self-report relationship harmony index by averaging the ratings that each individual gave to others. Using the SAPPS as the personality measure, she found that both the peer-given relationship harmony and the self-report relationship harmony were only predicted by peer-rated Helpfulness. According to these results, it was suggested that people who were seen as helpful tended to achieve a higher level of relationship harmony with the others in a group.

This study has widened our understanding of relationship harmony by studying the concept in a small group setting. The understanding has important implications for organizational research, as harmonious relationships among the members may be an essential resource for the group to achieve its goals. In addition, the two indices as generated by the averaged scores were by themselves interesting social phenomena. The self-report relationship harmony index reflected a person's perceived relationship harmony, which was about a person's own *evaluation* about the achievement of harmony with the other group members; while the peer-given relationship harmony indicated how much relationship harmony that person *actually achieved* in the group, as if one earned a reputation of being harmonious with his/her fellow group members.

In fact, the approach taken by Li (1999) could be seen as a variant of the approach employed by Asendorpf and Wilpers (1998). They proposed to study many relationships within a person's ego-centered social network to understand his/her relational experiences. Many different variables, for example the mean conflict across those relationships, could then be generated by aggregating scores across those different relationships. These variables could later be used to describe the

person's "relationship status" which referred to his/her overall relational experiences but not about any particular relationship he/she was involved. One may likewise view the two averaged relationship harmony indices generated in Li's study as a measure of the relationship status, which particularly reflected the actual relational achievement of an individual in a group. This averaging approach has an advantage of reducing the impact of chance influences on the averaged relational variables when we study the transactions between an individual's characteristics and his/her relational experiences and achievement.

Asendorpf and Wilpers (1998) further suggested that relationship status is a joint function of an individual's personality and different environmental influences on the relationships, where the personality of the partners in those relationships could be considered as part of the individual's environment. Moreover, their longitudinal study has also demonstrated that it is an individual's personality which affects his/her relationship statuses, but *not* vice versa. These findings, together with their suggestions, cast light on the question of what determines how we achieve relationship harmony in a small group --- the key may lie in the personality of the individuals.

The Five-Factor Model of Personality and Relationship Harmony

Li (1999) used the indigenous SAPPS measures to demonstrate that a person's Helpfulness is useful in predicting his/her achievement of relationship harmony in a group. Would a different measure of personality be equally useful in terms of predicting the level of relationship harmony a person achieved?

The Five-Factor Model of personality (FFM; Digman, 1990) is undoubtedly the most ideal tool to address the above question. The five dimensions, Openness of Experience, Conscientiousness, Extraversion, Agreeableness, and Neuroticism,

represent five broad traits of people. According to Costa and McCrae (1992), these five traits provide a guide to the "full range of personality characteristics". Such comprehensive measures of personality should be a promising tool to show how individual characteristics impact on the achievement of relationship harmony in groups.

Briefly speaking, Openness to Experience covers a broad range of traits related to imaginativeness, sensitivity to art, complex emotional life, curiosity, non-dogmatic attitudes and values, and so on (McCrae & Costa, 1997). People score high on this dimension tend to be adventurous, unorthodox, and unconventional. However, not much is known about the relationship between Openness to Experience and interpersonal relationships (McCrae & Costa, 1997). Therefore, there is not sufficient reason to hypothesize that this personality dimension would be significantly related to one's achievement of relationship harmony in group.

People score high on Conscientiousness are scrupulous, diligent, and well-organized (Costa & McCrae, 1992). They are persistent and productive job performers, and they complete assignments accurately and promptly (Hogan & Ones, 1997). Thus this trait is considered to be particularly important for task accomplishment in the workplace. However, based on the face definition, this task-oriented personality dimension was not expected to be significantly related to relationship harmony.

Neuroticism is a dimension which represents the tendency of an individual to experience negative emotions and to display related behaviors. People score high on this dimension generally hold negative views about themselves and the world. It was also found that this dimension of personality is related to a whole host of health-related problems and illness behaviors among individuals (Wiebe & Smith, 1997).

However, its linkage to relational phenomena was not as salient as that to illness behaviors. Therefore, Neuroticism was not expected to be associated with the level of relationship harmony that one achieved in the group.

Extraversion, on the other hand, measures a list of traits including sociability, activity, and the tendency to experience positive emotions. According to Costa and McCrae's (1992) formulation, the component traits of Extraversion include Warmth and Gregariousness, which indicate a person's high evaluation towards interpersonal relationships and strong motivation to seek frequent social interaction, respectively (see also Watson and Clark, 1997, p.776). This is one of the dimensions which relates closely to the interpersonal orientation of an individual.

In addition, Agreeableness is another dimension which is intrinsically interpersonal in nature (McCrae & Costa, 1989). Trusting, sympathetic, and cooperative are some common descriptions of people who score high on this dimension (Costa & McCrae, 1992). Graziano, Jensen-Campbell, and Hair (1996) even described Agreeableness as a dimension which was "probably the most concerned with interpersonal relationships" among the Five Factors. They found that Agreeableness was related to a person's perceived amount of interpersonal conflicts and the evaluations of different conflict resolution tactics.

As revealed from the respective definitions of the five dimensions, Extraversion and Agreeableness are the two dimensions that are more closely related to an individual's interpersonal behaviors than the other three dimensions (Hurley, 1998). For instance, they were both found to be positively related to a person's orientation to cooperate with others (Ross, Rausch, & Canada, 2003). Furthermore, Kwan et al. (1997) had already demonstrated that Extraversion and Agreeableness are positively related to the level of general relationship harmony. Thus it is

reasonable to hypothesize that Extraversion and Agreeableness are related to an individual's achievement of relationship harmony in a group.

In light of Asendorpf and Wilpers's (1998) suggestion that the relational partner's personality would create an environment which works together with an individual's personality to influence a person's relationship status, the other group members' personality should be taken into consideration. It is also expected that the other group mates' Extraversion and Agreeableness would be related to an individual's achievement of relationship harmony, both as a self-evaluation and an actual achievement, in the group (Hypothesis 1).

Relationship Harmony, Interpersonal Attraction, and Group Cohesiveness

Compared with the concept of interpersonal attraction, relationship harmony is a novel concept in small group research. Group formation has long been studied in terms of the concept of group cohesiveness, and this approach traces group formation to the process of interpersonal attraction among the members in the group (see Hogg & Hardie, 1991; Hogg & Turner, 1985 for more detailed discussion). However, many researchers have pointed out that group cohesiveness was more than mere interpersonal attractions among group members (e.g. Carron & Brawley, 2000; Dion, 2000; Mullen & Copper, 1994). They have alerted us to pay attention to the exact nature of interpersonal attraction and its association with group cohesiveness. While interpersonal relationship may not be adequate for us to comprehensively understand group cohesiveness, the novel concept of relationship harmony in group may supplement this inadequacy.

To show that relationship harmony and interpersonal attraction may play complementary roles in the prediction of group cohesiveness, the first step would be to understand the similarity and difference between them. It is expected that the two

would have quite similar personality correlates because they are both relational in nature. As discussed in the previous sections, Extraversion and Agreeableness are the two personality dimensions which are most related to the interpersonal tendencies of an individual. They both tune people to be more socially oriented and be more interpersonally sensitive, it is logical to deduce that they would also be positively associated with the level of interpersonal attraction that one experiences in the group. Again, since the personality of the other members in the group would also affect a person's relational experiences in the group, it is expected that one's and his/her group mates' levels of Extraversion and Agreeableness would be positively associated with interpersonal attraction, both in terms of how one is being attracted by and being attractive to the other group members (Hypothesis 2).

Though relationship harmony and interpersonal attraction might have similar personality correlates, they do represent different aspects of an interpersonal relationship. The former described the *state* of a relationship, while the latter described the *strength of force* which draws the two persons together in the relationship. Due to this subtle difference in nature, they might influence a person's experience of group cohesiveness in different ways.

The argument that the two relational constructs would influence people's experience of group cohesiveness differently can be elaborated from two previously established conceptualizations of group cohesiveness. First of all, according to Hogg and his colleagues (e.g. Hogg, Cooper-Shaw, & Holzworth, 1993; Hogg & Hardie, 1991), interpersonal attraction should be differentiated from the concept of "social attraction" which is about depersonalized attraction to the whole group. They suggested that social attraction was the "true group cohesiveness", whereas interpersonal attraction was only about an individual's attraction to a personal

relationship. Such distinction fine-tuned the definition of group cohesiveness and made it possible to study the exact relationship between interpersonal attraction and group cohesiveness. In particular, since interpersonal attraction and the attraction to the whole group are both affective in nature, logically speaking, one's experiences of attraction to the other members should be related to how much he/she is attracted to the group. On the other hand, given the emphasis of the practical value of relationship harmony in the Chinese society (Gabrenya and Hwang, 1996), it was not expected to relate as much as interpersonal attraction to an individual's affection towards the whole group (Hypothesis 3).

Secondly, according to Carron and Brawley (2000; see also Brawley, Carron, & Widmeyer, 1987; Carron, Widmeyer, & Brawley, 1985), two constellations of social perceptions of the individual member can be used to access the group's cohesiveness. They labeled them "Individual Attraction to the Group" (ATG) beliefs and "Group Integration" (GI) beliefs. Similar to Hogg and his colleagues' concept of social attraction, the ATG beliefs are about an individual's attraction to the whole group. The GI beliefs, on the other hand, reflect an individual's perceptions about what the *group* believes about its closeness, bonding, degree of unification, and so on. When this aspect of group cohesiveness is also taken into consideration, the functional difference between relationship harmony and interpersonal attraction can be seen more clearly. As previously suggested, relationship harmony serves as a basis for the whole group to function smoothly. Therefore, one's experiences of relationship harmony may be more related to his/her perception about the ways that the group members work together to achieve its goal, i.e. its integration. It is likely that if a person experienced more relationship harmony in the group, he/she would

perceive more positively about the ways the group members function together (Hypothesis 4).

Taken together, relationship harmony and interpersonal attraction are hypothesized to relate to different aspects of an individual's experiences of group cohesiveness, that is, the perception of group integration and the individual attraction to the group, respectively. This new formulation enriches our knowledge about the relational phenomena and cohesiveness within small groups. The next step will be to understand how these relational and group experiences are translated into group performance.

Relational Experiences, Group Cohesiveness, and Group Outcomes

The interests in group cohesiveness rooted from its potential as a predictor of group performance (Mullen & Copper, 1994). Noting the inconsistency among research findings concerning the association between cohesiveness and group performance, Mullen and Copper (1994) meta-analyzed 49 related studies and identified three components of group cohesiveness: interpersonal attractions, commitment to the task, and group pride. They observed that the cohesiveness-performance effect was due primarily to commitment to the task instead of interpersonal attraction and group pride. Based on these findings, they suggested that our attention should be directed to determine "how to increase people's liking for or commitment of group tasks" (p.224) for the sake of enhancing group performance. According to this suggestion, a linkage between an individual's relational and group experiences and the group's performance was proposed.

The proposed linkage could be examined based on an input-process-output model which had often been used to understand group performance (e.g. Barrick, Stewart, Neurbert, & Mount, 1998; van Vianen & De Dreu, 2001). It states that

group performance is a function of group processes including group cohesiveness. Group processes in turn depend on various inputs, such as members' personality and ability. This model will be employed in the present study, except that the input will be the individuals' relational experiences in the group but not their personality traits. This approach takes into account the interaction effect among individuals of different personality, instead of merely considering the combined effect of the individual or ability personality resources. It would be a more direct way to look into how different individuals work together would affect group performance.

I previously suggested that both interpersonal attraction and relationship harmony may serve different functions and relate to different individual perceptions about the group. Those individual perceptions of different members in the same group, provided that they are of reasonable inter-rater reliability, can be aggregated to represent two group-level cohesiveness measures: the overall attraction within the group and the group's overall integration. These cohesiveness measures can then be used to resemble the group processes which in turn impact on group performance according to the input-process-output model.

Specifically, it is proposed that interpersonal attraction would have positive effect on group performance, where the association would be mediated by the overall attraction within the group; on the other hand, relationship harmony would also positively affect group performance, where the relationship is suggested to be mediated by the overall positive group integration (Hypothesis 5).

The Nonindependence Issue

One of the major challenges concerning the testing of the above hypotheses is that the individuals are nested within groups, which creates nonindependence of the individual-level data. Nonindependence means that "persons who are in the same

group are more similar (or diss   imilar) to one another than are persons who are members of different groups" (Kenny, Mannetti, Pierro, Livi, & Kashy, 2002, p.126). It undermines the statistical assumption of certain common procedures such as ANOVA and regression that observations are independent.

To tackle this challenge, the Actor-Partner Interdependence Model (APIM) (Kenny & Cook, 1999; Kashy & Kenny, 2000; Kenny et al., 2002) will be used for testing the hypotheses concerning the individual members. This technique also allows for estimating how the other group members' personality may affect the rating one gives or gets in relationship harmony and interpersonal attraction. In other words, the effect of the environment in the group as created by the presence of the other group members on an individual's relational experiences can also be examined.

To summarize, this study attempts to investigate the personality correlates of the achievement of relationship harmony in groups as well as the role of relationship harmony in group process and group performance. Interpersonal attraction was also examined to demonstrate the distinctive role played by each of these two relational constructs in real groups. It was hypothesized that both relational constructs would be related to the two socially oriented personality traits, i.e. Extraversion and Agreeableness. However, they were expected to relate to different aspects of group process which might in turn impact on group performance.

Chapter 2: Method

Participants

The data collected in Li (1999) were used to investigate the research questions of interest. One hundred and seven Hong Kong Chinese undergraduate students of the social psychology class in the Chinese University of Hong Kong took part in the study as partial fulfillment of the course requirement, among whom 23 were males and 84 were females. The mean age of the participants was 20.68 years, with a standard deviation of 2.05. Since they had to complete three group assignments during the three-month course period, they formed groups of five or six, resulted in 19 groups of five and two groups of six. They were required to meet at least once a week for discussing and coordinating their group projects, so adequate interaction among group members was ensured.

Due to the possible complication of varying group size in the following data analysis approach (Kenny, et al., 2002) and the possible effect of group size on the processes within group (Mullen & Cooper, 1994), only the data from the 19 groups of five were included. Among those groups ten were all female and nine were mixed, with 21 males and 74 females retained in the final sample.

Measures

The participants completed two questionnaire surveys at the beginning and at the end of the course. The following scales were included as part of the questionnaires.

NEO Five-Factor Inventory. At the beginning of the course, the participants completed the NEO Five-Factor Inventory (NEO-FFI). Developed by Costa and McCrae (1992), the 60-statement NEO-FFI was used for assessing the five personality factors: Neuroticism, Extraversion, Openness to Experience,

Agreeableness, and Conscientiousness. The five factors, each consisted of 12 items

in the NEO-FFI, were measured by a Likert scale ranging from 1 (strongly disagree)

to 5 (strongly agree). In order to maximize construct coherence, items that yielded a

negative item-total correlation with the respective factor were discarded from further

analyses[1]. The standardized alpha coefficients of the five factors ranged from .44 for

Agreeableness to .70 for Conscientiousness, with a mean of .60. As the five factors

had been well validated in a number of different studies (e.g. Kurtz & Sherker, 2003

for findings in the American sample; Kwan et al, 1997 for that in the Hong Kong

Chinese sample), it was still reasonable to employ these five factors in the

subsequent analyses.

Interpersonal Relationship Harmony Inventory. Kwan et al. (1997)

developed this scale in order to evaluate the degree of an individual's interpersonal

relationship harmony in the five most important relationships in their lives.

Participants were asked to specify the target's name, gender and relationship type for

those relationships. The design of the scale was adopted in this study, except that the

participants were asked to rate the relationship harmony with each of their group

mates rather than that in the five most important relationships. This assessment was

done after the groups finished all the assignments. The participants indicated the

level of relationship harmony (RH) with each of the group mates on a seven-point

Likert scale ranging from 1 (very low) to 7 (very high).

A self-report RH index was created by averaging the four ratings on RH that

each individual reported, and a peer-given RH index was created by averaging the

four ratings that each individual received from the group mates. Both indices would

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[1] One item of the Extraversion factor (FFI#47), one of Agreeableness (FFI#29), two of Openness to Experience (FFI#8 and #28) and one of Conscientiousness (FFI#30) were dropped from the analysis in this study.

serve as the dependent variables in the subsequent analyses.

The Interpersonal Liking Scale. The participants were asked to indicate how much they liked each group mate after the three-month collaboration (see Appendix 1). A seven-point Likert scale was used, ranging from 1 (really dislike) to 7 (really like). Again, a self-report liking index was created by averaging the four ratings on liking that each individual reported, and a peer-given liking index was created by averaging the four ratings that each individual received from the group mates.

Measures of attraction to the group and group integration. The eight-item Group Interaction Measure (GIM; Watson, Michaelson, & Sharp, 1991, see Appendix 2) was used in the present study. The items were scored on a five-point Likert scale, ranging from 1 (a very little extent) to 5 (a very great extent).

Three of the items were adapted from Yalom's (1975) descriptions of cohesive groups. They described how a person liked the group, how he/she felt that the group aided his/her own personal goal achievement, and how he/she evaluated the ways the group worked together as compared with the other groups in the class. The standardized alpha coefficient of this scale was .81. The three item scores would be averaged to resemble an individual's attraction to the *whole* group.

The other five items of the GIM were adapted from Bowers and Seashore's (1966) scale of group interaction. These items assessed the participants' perceptions of the group members' behaviors of working as a team, and the members' emphases on effort and performance standard. The standardized alpha coefficient of these items was .81. The scores of the five items were averaged to provide an index of the individual's perceived level of group integration.

Group performance outcome. After the three-month collaboration, each group had completed two group assignments and received feedback from the teaching

assistant of the course. The two scores given for the assignments, both of which the maximum were 100, were averaged to indicate the level of group performance outcome.

Analytic Strategy

The Actor-Partner Interdependence Model (APIM) proposed by Kenny and his colleagues would be used in the individual-level analyses. Recent applications of the APIM included Campbell, Simpson, Kashy, & Rholes (2001), Campbell & Kashy (2002), and Lakey & Canary (2002)[2].

The analysis proceeds in two steps. First, a between-within analysis is done. A between-group regression analysis which estimates the effect of the group average independent variables on the group average outcome variable will be done. Then a within-group regression will be done to estimate the effect that an individual's deviation from the group average on the independent variable has on the individual's deviation from the group average on the outcome variable.

The regression coefficients then obtained are used to estimate the actor and partner effects. The actor effect (denoted as b_a) estimates the effect that a person's own score on the independent variable has on his/her outcome variable, while the partner effect (denoted as b_p) estimates the effect that the other group members' scores on the independent variable have on the person's outcome variable. Significance tests of both the actor and partner effects are derived from the regression coefficients and the associated standard errors terms in the between and within analyses.

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[2] All the examples reported here concerned with dyadic data, which could be considered as a special form of group data (Kashy & Kenny, 2000).

Chapter 3: Results

The descriptive statistics of the personality variables, the relational variables,

the group process measures, and the group performance are shown in Table 1.

Table 1

Descriptive Statistics of the Variables.

Variables (n = 95)	Mean	Standard deviation
Neuroticism	3.03	0.50
Extraversion	3.25	0.42
Openness to Experience	3.34	0.56
Agreeableness	3.36	0.38
Conscientiousness	3.48	0.43
Self-report RH	5.83	0.62
Other-given RH	5.83	0.47
Self-report liking	5.57	0.65
Other-given liking	5.57	0.63
Individual's attraction to group		
Perceived group integration	3.67	0.60
Group performance measure (n=19)	83.11	5.11

Table 2 shows the correlation matrix of the variables.

Self-report RH

The first set of hypotheses was that a person's and one's group mates'

Extraversion and Agreeableness would be positively associated with the self-report

RH in the group. As shown in Table 3, this set of hypotheses was only partially

supported by the data.

As predicted, the actor's Agreeableness was positively related to the self-

report RH (b_a = .391, $p <$. 05), yet his/her Extraversion did not significantly predict

self-report RH (b_a = .069, $p >$.05). Interestingly, the actor's Openness to Experience

and Conscientiousness were negatively related to the self-report RH.

Table 2

Correlation among the Variables.

	1	2	3	4	5	6	7	8	9	10	11
1. Self-rated RH	-										
2. Other-given RH	0.21*	-									
3. Self-rated liking	0.72**	0.37**	-								
4. Other-given liking	0.29**	0.77**	0.38**	-							
5. Neuroticism	0.18	0.14	0.16	0.10	-						
6. Extraversion	-0.03	-0.06	0.12	-0.12	-0.41**	-					
7. Openness to Experience	-0.29**	-0.25*	-0.27**	-0.18	-0.05	-0.09	-				
8. Agreeableness	0.06	0.01	-0.04	-0.03	0.08	-0.09	0.35**	-			
9. Conscientiousness	-0.21*	-0.09	-0.10	-0.22*	-0.02	-0.06	0.02	0.14	-		
10. Individual's attraction to group	0.54**	0.45**	0.62**	0.44**	0.04	0.05	-0.26*	0.11	0.004	-	
11. Perceived group integration	0.50**	0.26*	0.53**	0.32**	-0.08	0.17	-0.27**	0.04	0.08	0.63**	-

Note. $*p< .05$, $**p< .01$.

$(b_a = -.385, p < .01; b_a = -.315, p < .05)$. The results suggested that if a person scored

higher on Openness to Experience and Conscientiousness, he/she would report lower

RH in the group.

Table 3

Results regarding Self-Report RH.

FFI	Between-analysis				Within-analysis			
	b	s	t	p	b	S	t	p
N	.31	.28	1.09	.295	.14	.15	.94	.349
E	.56	.40	1.39	.187	-.05	.18	-.30	.762
O	-.65	.20	-3.21	.007	-.32	.17	-1.87	.066
A	1.17	.43	2.74	.017	.20	.20	.99	.324
C	-.44	.27	-1.66	.121	-.28	.16	-1.73	.088
	Actor effect estimates and tests				Partner effect estimates and tests			
	b_a	s_a	df_a	t	b_p	s_p	df_p	t
N	.172	.130	83.15	1.327	.138	.255	20.52	.539
E	.069	.161	78.76	.430	.491	.351	18.27	1.399
O	-.385	.143	80.64	-2.701**	-.266	.212	34.79	-1.251
A	.391	.180	80.93	2.175*	.778	.377	19.03	2.065
C	-.315	.142	83.90	-2.224*	-.128	.251	24.03	-.511

*Note. *$p < .05$, **$p < .01$.*

Interestingly, the significant relationship between Agreeableness and self-

report RH in the APIM analysis was primarily due to the suppression effect of

Agreeableness, given that the zero-order correlation between the two was non-

significant (see Table 2). The suppression situation was made possible because there

was a significant correlation between Agreeableness and Openness to Experience (r

$= .35, p < .05$). Since the two personality dimensions are theoretically different from

one another, there is no reason to delete any of the predictors in the model for the

sake of parsimony. It would be more appropriate to interpret the effect of

Agreeableness together with Openness to Experience in a meaningful way (Maassen

& Bakker, 2001)[3]. In other words, if one was high in Agreeableness, he/she would also need to be low in Openness to Experience in order to experience a higher level of RH in group.

On the other hand, none of the partner effects of the FFI were statistically significant (see also Table 3). The results suggested that the personality of one's teammates were not related to how one evaluated his/her own RH in the group.

Other-given RH

Extending from the first set of hypotheses, a person's own and his/her group mates' Extraversion and Agreeableness were hypothesized to positively associate with the level of other-given RH of that person. Again, this hypothesis was only partially supported (see Table 4).

Table 4

Results regarding Other-Given RH.

FFI	Between-analysis				Within-analysis			
	b	s	t	p	b	s	t	p
N	.31	.28	1.09	.295	.06	.098	.65	.517
E	.56	.40	1.39	.187	-.16	.12	-1.33	.188
O	-.65	.20	-3.21	.007	-.09	.12	-.74	.461
A	1.17	.43	2.74	.017	.10	.13	.72	.476
C	-.44	.27	-1.66	.121	-.04	.11	-.39	.698
	Actor effect estimates and tests				Partner effect estimates and tests			
	b_a	s_a	df_a	t	b_p	s_p	df_p	t
N	.113	.097	65.91	1.169	.197	.240	16.24	.819
E	-.013	.123	53.97	-.104	.573	.335	15.28	1.710
O	-.198	.101	83.96	-1.971	-.453	.187	22.26	-2.426*
A	.310	.136	58.76	2.272*	.859	.358	15.62	2.401*
C	-.123	.103	76.36	-1.193	-.320	.231	17.69	-1.386

Note. *$p < .05$, **$p < .01$.

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[3] The article mainly discussed about the interpretation of suppressor variables in path models.

As predicted, the actor's Agreeableness was found positively related to the other-given RH (b_a =.310, $p <$. 05). In addition, it was found that the partner effect of Agreeableness was also significant (b_p =.859, $p <$. 05). In other words, one's own and his/her group mates' Agreeableness were both positively related to how much an individual achieved the "reputation" of being a harmonious person in the group. Again, the significant relationship obtained between Agreeableness and other-given RH in the APIM analysis was the result of the suppressor effect. Since the results could still be interpreted meaningfully, it would be better to retain the model that fits the data more closely.

However, both the actor and partner effects of Extraversion were not significant (b_a =-.013, $p >$. 05; b_p =.573, $p >$. 05), suggested that one's own and the group mates' Extraversion were not related to how much a person achieved relationship harmony in the group.

Mirroring the results obtained for the self-report RH, the partner effect of Openness to Experience was found negatively related to the other-given RH (b_p =-.453, $p <$. 05). It suggested that if a person's group mates were more open to experience, he/she would receive lower RH ratings in the group.

Self-report Liking

The second set of hypotheses was that a person's and one's group mates' Extraversion and Agreeableness would be positively related to the self-report liking. These hypotheses received partial support from the results (see Table 5).

However, since the APIM analyses actually consisted of regression analysis, it is reasonable to apply the same reasoning in current analyses.

Table 5

Results regarding Self-Report Liking.

FFI	Between-analysis				Within-analysis			
	b	*s*	*t*	*p*	*b*	*s*	*t*	*p*
N	.32	.44	.72	.484	.28	.14	2.03	.046
E	.80	.62	1.29	.220	.27	.16	1.65	.104
O	-.61	.31	-1.95	.073	-.19	.16	-1.21	.229
A	1.07	.66	1.62	.130	-.034	.18	-.19	.854
C	-.64	.41	-1.54	.147	.053	.15	.35	.731
	Actor effect estimates and tests				Partner effect estimates and tests			
	b_a	s_a	df_a	*t*	b_p	s_p	df_p	*t*
N	.284	.140	58.21	2.031*	.033	.368	15.58	.089
E	.373	.180	46.61	2.080*	.426	.513	14.82	.829
O	-.277	.142	82.92	-1.950	-.334	.282	20.28	-1.188
A	.186	.198	50.89	.942	.882	.549	15.08	1.606
C	-.0852	147	70.26	-.580	-.551	.351	16.72	-1.568

*Note. *$p< .05$, **$p< .01$.*

The actor's Extraversion, as predicted, was positively related to his/her self-report liking ($b_a = .373$, $p <. 05$). However, the partner effect of Extraversion was not significant ($b_a = .426$, $p >. 05$). Moreover, both the actor and partner effects of Agreeableness were not significant ($b_a = .186$, $p >. 05$; $b_p = .882$, $p >. 05$), suggested that whether the person's and his/her group mates' were agreeable or not did not relate to the level of liking he/she reported.

Interestingly, the actor's Neuroticism was also found to be positively associated with one's self-report liking in the group ($b_a = .284$, $p <. 05$). The result suggested that one's Neuroticism was positively related to how much he/she likes the other members in the group.

Other-given Liking

Similar to the self-report liking, a person's and one's group mates'

Extraversion and Agreeableness were both hypothesized to be positively related to

the other-given liking. However, the results did not support these hypotheses (Table

6).

Table 6

Results regarding Other-Given Liking.

FFI	Between-analysis				Within-analysis			
	b	s	t	p	b	s	t	p
N	.32	.44	.72	.484	.0003	.137	.002	.998
E	.80	.62	1.29	.220	-.39	.164	-2.40	.019
O	-.61	.31	-1.95	.073	.07	.16	.43	.665
A	1.07	.66	1.62	.130	.16	.186	.83	.407
C	-.64	.41	-1.54	.147	-.23	.154	-1.51	.136
	Actor effect estimates and tests				Partner effect estimates and tests			
	b_a	s_a	Df_a	t	b_p	s_p	df_p	t
N	.0637	.141	58.73	.453	.253	.369	15.62	.687
E	-.154	.181	47.40	-.851	.953	.514	14.86	1.854
O	-.0665	.143	83.02	-.466	-.545	.282	20.38	-1.931
A	.338	.199	51.63	1.696	.730	.549	15.12	1.330
C	-.312	.148	71.06	-2.105*	-.324	.352	16.83	-.921

Note. *$p < .05$, **$p < .01$.

Both the actor and the partner effects of Extraversion and Agreeableness were

not statistically significant ($b_a = -.154$, $p > .05$, $b_p = .953$, $p > .05$ for Extraversion; b_a

$= .338$, $p > .05$, $b_p = .730$, $p > .05$ for Agreeableness). Surprisingly, the actor's

Conscientiousness was found negatively associated with the other-given liking rating

($b_a = -.312$, $p < .05$), which means that if a person scored higher on

Conscientiousness, he/she would be rated as less likable by the group mates.

The results obtained thus far showed that the two relational constructs, RH and liking, could be predicted by different personality dimensions as measured by the NEO-FFI. In terms of the two "interpersonal" NEO-FFI dimensions, it was found that Extraversion was a better predictor to liking, while Agreeableness seemed to be more related to RH. Openness to Experience and Conscientiousness, were found negatively related to the two relational constructs. Surprisingly, Neuroticism was found to be positively associated with self-report liking. These results were insightful to our understanding of RH and liking as relational constructs in small functioning groups.

Individual's Attraction to Group

It was hypothesized that a person's personal attractions to the other fellow group members would be related to how much he/she was attracted to the whole group. The results of the APIM analysis supported this hypothesis (see Table 7). As revealed by the significant actor effect (b_a =.408, $p <$. 01), a person's self-report liking was positively related to his/ her own attraction to the whole group. The self-report RH, on the other hand, were not significantly related to one's attraction to the whole group (b_a =.254, $p >$. 05). It indicated that a person's experience of harmonious relationships in the group could not predict his/ her own attraction to the whole group.

As indicated by the insignificant partner effects of both relational variables (see also Table 7), one's group mates' relational experiences did not relate to how much the person was attracted to the group.

Table 7

Results regarding Individual's Attraction to the whole Group.

	Between-analysis				Within-analysis			
	b	s	t	p	b	s	t	p
Self-report RH	0.38	0.44	0.85	0.410	0.22	0.13	1.67	.099
Self-report liking	0.78	0.34	2.30	0.035	0.32	0.15	2.16	.034
	Actor effect estimates and tests				Partner effect estimates and tests			
	b_a	s_a	df_a	t	b_p	s_p	Df_p	t
Self-report RH	.254	.139	66.41	1.825	.121	.371	19.03	.326
Self-report liking	.408	.135	86.99	3.020**	.368	.294	22.43	1.250

*Note. *$p< .05$, **$p< .01$.*

Perception of Group Integration

A person's experience of relationship harmony in the group was hypothesized to positively associate with his/her perception of group integration. According to the results of the APIM analysis, it was found that one's self-report RH was significantly related to the perceived level of group integration ($b_a =.277, p <. 05$), while one's self-report liking was not ($b_a =.208, p >. 05$) (see Table 8). The results showed that if a person experienced more relationship harmony in the group, he/ she would perceive higher level of integration among group members. Yet his/ her attraction to the other group members did not significantly relate to such perception.

Table 8

Results regarding Individual's Perception of Group Integration.

	Between-analysis				Within-analysis			
	b	s	t	p	b	s	t	p
Self-report RH	0.65	0.41	1.56	0.138	0.19	0.11	1.61	0.111
Self-report liking	0.26	0.31	0.84	0.414	0.19	0.13	1.56	0.124
	Actor effect estimates and tests				Partner effect estimates and tests			
	b_a	s_a	df_a	t	b_p	s_p	df_p	t
Self-report RH	.277	.123	59.91	2.244*	.368	.343	18.53	1.073
Self-report liking	.208	.118	83.62	1.764	.0555	.271	21.34	.205

*Note. *p< .05, **p< .01.*

Group Performance Outcome

The last set of hypotheses concerned with how the relational resources would serve as input for the group performance outcome. Specifically, it was hypothesized that interpersonal attractions would be translated into the overall attractions to the group, which in turn positively impact on the group performance; and that harmonious relationships would be translated into the overall integration among group members, which also positively impact on the group performance.

To demonstrate that the average of every member's own attraction to the group could reliably be used to represent the overall attractions within group, an $R_{wg(5)}$ of the scale was calculated for each group (James, Demaree, & Wolf, 1984). Among the 19 groups, the $R_{wg(5)}$ of the attraction to the group scale ranged from .09 to .98, with an average of .86. The extremely low $R_{wg(5)}$ observed in some groups indicated that the perceived attraction to the group was too subjective a measure to be aggregated to obtain a measure of the overall attractions within group. Thus I did

not proceed further in the analyses of the first part of the hypothesis, even though it was found that group interpersonal attraction do significantly correlate with both overall attractions to the group ($r = .83$, $p < .01$) and group performance ($r = .61$, $p < .01$).

For the second part of the hypothesis, the $R_{wg(5)}$ of the perceived group integration scale was again calculated to support the notion that the participants' observations about their own group's group integration are of considerable reliability. It was found that the $R_{wg(5)}$ of this scale were above .80 across all 19 groups, ranging from .83 to .98. Thus it is reasonable to use the averaged score of all members in the group to represent the level of integration of that group.

The mediating role of group integration in the relationship between group relationship harmony and group performance was tested following the procedure of Baron and Kenny (1986). Table 9 summarizes the results of the regression analyses.

The regression coefficient of group integration was not statistically significant when it is in the same regression equation with group relationship harmony ($b = 5.27$, $p > .05$). This result suggested that group integration did not mediate between group relationship harmony and group performance outcome. Thus, even though group relationship harmony was found to predict group performance outcome, the association between the two variables is yet to be explained.

Table 9

Results regarding the mediating Role of Group Integration between Group Relationship Harmony and Group Performance.

Steps (dependent variable) Predictor variable	b	ΔR^2	Total R^2	df
Step 1 (group integration)				
Group averaged RH	.945**	-	.553**	1, 17
Step 2 (group performance)				
Group averaged RH	9.654**	-	.401**	1, 17
Step 3 (group performance)				
Group integration	5.267	-	.445**	1, 17
Group averaged RH	4.679	.042	.487**	1, 16

Note. b = unstandardized regression coefficients.

    * *p* <.05 and ** *p* <.01, for *t*-test of the unstandardized regression coefficients
    and the *F*-test of the ΔR^2 or the total R^2 of the overall model.

Chapter 4: Discussion

This study aimed to examine the personality correlates of relationship harmony in small groups and to investigate the effect of relationship harmony on group process and group performance. To demonstrate their distinctiveness in predicting group processes both interpersonal attraction and relationship harmony were included in the analyses. It turned out that the two were found to link to quite different personality correlates, and that they were functionally different from one another in small groups.

Personality Correlates of Relationship Harmony and Interpersonal Attraction

The analyses revealed that even though relationship harmony and interpersonal attraction are both relational constructs, their personality correlates are actually quite different. Regarding the interpersonal-related personality dimensions, the former seemed to be more related to Agreeableness, while the latter was found more related to Extraversion. In addition, Openness to Experience, Conscientiousness, and Neuroticism provided some surprising results in the analyses.

It was found that a person's Agreeableness was related to both self-report and other-given relationship harmony. In addition, one's fellow group mates' Agreeableness was also found positively related to other-given relationship harmony. These results suggested that agreeable persons are more socially accommodating, which enables them to achieve higher level of relationship harmony with the others in the group. Just as Graziano et al. (1996) suggested, Agreeableness may reflect people's internalized tendencies in the regulation of anger and frustration, therefore, agreeable people are usually better able to control their anger and negative emotions in frustrating situations. This ability to control emotions helps agreeable people to

sooth the tension, if any, in different social situations, particularly in a group where people must work together to achieve a common goal.

On the other hand, a person's Extraversion was found related to how much he/she likes the other group members. This finding is consistent with the primary trait of sociability of an extravert (Watson & Clark, 1997). Nonetheless, the other group members' Extraversion was not associated with how much one liked the others. This result echoes the findings concerning the other-given liking, where both the actor and partner effects of Extraversion were found nonsignificant. It is possible that some other primary traits of Extraversion, boldness and assertiveness, hindered the extravert from being "likable" in a work group where interpersonal adjustments and accommodation are important for people to get along with one another throughout the collaboration process.

In fact, the distinctive roles played by Extraversion and Agreeableness on predicting the two relational constructs seem to make more sense when their connections to Wiggins' (1991) two dimensions of interpersonal behaviors, agency and communion, are made (McCrae & Costa, 1989). Agency refers to an individual's strivings for power and mastery, whereas communion refers to an individual's strivings for intimacy, union, and solidarity with larger social or spiritual units. It was always suggested that Extraversion was more related to agency while Agreeableness was more related to communion (Hurley, 1998). It is possible that the higher association between Agreeableness and the communion aspect of interpersonal behaviors makes the former a better predictor of relationship harmony than extraversion.

The results regarding relationship harmony only echoed those related to the correlation between relationship harmony and Agreeableness in the Kwan et al.'s

(1997) study. Extraversion was found to correlate with the general relationship harmony of a person's five most important relationships in life in that study, yet it did not relate to the relationship harmony achievement in a group in this study. The difference may be due to the different types of relationships involved in the two studies. Kwan et al.'s (1997) participants could pick any five most important relationships to evaluate the level of harmony, while in the present study the focus was on the relationships in real groups. Extraversion, as discussed above, is a personality dimension composed of various primary traits including boldness and assertiveness (Watson & Clark, 1997) which may manifest through the agency aspect of interpersonal behaviors. As a result, it is not related to the achievement of relationship harmony in a small group setting where boldness and assertiveness may be detrimental to smooth interpersonal interactions.

Despite the fact that the hypotheses concerning the personality correlates were only partially supported, the results did show a clear distinction between relationship harmony and interpersonal attraction. It was also interesting to find that Openness to Experience, Conscientiousness, and Neuroticism also played a role in the prediction of relationship harmony and interpersonal attraction in a group.

One's Openness to Experience was found to be negatively related to his/her self-report relationship harmony in the group and one's other-given relationship harmony. This finding is intriguing because Openness to Experience is not as obviously related to interpersonal relationships as Agreeableness and Extraversion. However, it is possible that an unorthodox, and free-thinking person who is prone to flout convention would abide to the conventions of the group to a lesser degree. For instance, he or she may not abide by the working procedures or group decisions concerning the tasks (McCrae & Costa, 1997). These behaviors are likely to make

his/her interaction with the others less smooth, which in turn attenuate the relationship harmony he/she experiences in the group.

Much to our surprise, it was found that if a person scored higher on Conscientiousness, he/she would report lower relationship harmony and be rated as less likable by the others in the group. Conscientiousness is most related to one's job performance and productivity, as conscientious people are usually well-organized, prudent, thorough, and neat (Hogan & One, 1997; McCrae & John, 1991), and these characteristics should be admired by the others in the group. One possible explanation for the unexpected finding would be that conscientious people also tend to be more achievement-oriented (McCrae & John, 1991). This might impair their ability to maintain smooth relationships with others during the process of completing the group assignments which are important to their course grade. It might also make them appear as less likable, particularly if others do not share the same goal to achieve better grades in the tasks.

A person's Neuroticism was found positively related to his/her reported level of liking of the others in the group. The relationship between the two cannot be easily explained. A possible reason may be that the high self-consciousness and low self-esteem (McCrae & John, 1991) probe a person to be more attracted by others because the sense of belonging to a group can help improve his/her own well-being (Crocker, Luhtanen, Blaine, & Broadnax, 1994).

Relationship Harmony, Interpersonal Attraction, and Group Cohesiveness

As predicted, relationship harmony was found significantly related to the perception of the level of integration of the group, whereas interpersonal attraction was associated with the individual's attraction to the group. The fact that the two relational constructs play a unique role in predicting the two cohesiveness measures

further supports that they are distinctive constructs. Specifically speaking, relationship harmony is of a higher practical functional value to a group, while interpersonal attraction is more related to the affective cohesion of the group.

Even though the relational constructs relate to the two cohesiveness measures as hypothesized, when I attempted to aggregate those individual-level perceptions to obtain the group-level measures of group cohesiveness, the construct of attraction within the group did not show adequate inter-rater agreement in some groups for such an operation. It is possible that the affective nature of attraction to the group renders it a more subjective construct than the observable behaviors among all the group members. This high level of subjectivity makes it difficult to be used as a group-level construct for predicting group-level outcome. On the other hand, the high level of inter-rater reliability of group integration signified that behaviors might be a more promising indicator of group cohesiveness at the group-level analyses.

Relational Constructs, Group Cohesiveness, and Group Performance

Another goal of this study was to show that the relationship status of a group's members can serve as an input resource for the group processes, which in turn positively impacts on the level of group performance. However, the analysis of the harmony–integration–performance model showed that group integration did not mediate the relationship between relationship harmony and group performance.

It was possible that the group integration measures in the present study were not comprehensive enough to capture the group process which mediates the effect of relationship harmony on group performance. In other words, there may actually be other aspects of group integration or behaviors which can explain the association between relationship harmony and group performance. For instance, measurement of behaviors concerning the actual distribution and coordination of tasks may be more

predictive of group performance than abstract measures such as emphases of group goal and performance standard.

Even though the mediation model could not be successfully established, the attempt of using the relational constructs as input merits further attention. Compared with the other studies which utilized individual personality composition as input (e.g. Barrick et al., 1998; van Vianen & De Dreu, 2001), the present study had already taken one step further by using the relational measures which can more directly assess the effect of the interaction among different individuals in group process. In other words, we do not need to infer the interpersonal dynamics from our knowledge about the individuals' personality. What actually happened among the interpersonal relationships in group may already be enough for us to understand how individuals in a group work together to achieve a common goal.

Future Research Directions

In light of the findings in the present study, several suggestions are made in terms of future research directions. First of all, the personality measure used in the present study was the NEO-FFI, which was employed because of its comprehensiveness. However, other measures regarding the characteristics of an individual may also be interesting to study. For instance, the independent/ interdependent self-construals (Markus & Kitayama, 1991) could be an alternative. Self-construals were found to affect one's communication style in groups (Gudykunst, Matsumoto, Ting-Toomey, Nishida, Kim, & Heyman, 1996), it may also be possible that they are related to one's relational achievement in a group, i.e., relationship harmony and interpersonal attraction.

In addition, the measurement of group outcome in this study was the performance score on the group assignments. Another important group outcome,

team viability (Hackman, 1987), might also be very dependent on the status of the interpersonal relationships in the group. Since the groups involved in the present study were groups formed for course assignments, it was not possible to assess group viability as an outcome. It will be worthwhile to study the possible effect of the interpersonal relationships in a group on this future-related group effectiveness outcome.

Lastly, the focus of this study may be further refined into the understanding of the "relationship-specific" relationship harmony in the group. That is, one may investigate the level of harmony of every single relationship in the group, and make predictions about the level of harmony achieved in each relationship based on the individual characteristics and the combination of characteristics of the dyad. In fact, one may also consider the possible effect of a group on the relationships. In other words, it is possible to study the effect of group culture on a relationship outcome. Though the data analysis would be quite complicated due to the nonindependence issue, it is now made possible with the advancement in analytical techniques. Snijders and Kenny (1999) proposed a multilevel approach for the analysis of relational data from multiple persons in groups. With the help of such technique, one may understand more about the determinants of the achievement of relationship harmony in groups in a more detailed way.

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Appendix 1

The Interpersonal Liking Scale.

You have been working with your group members for approximately ten weeks. Please indicate to what extent do you like each of your group members on the following 7-point Likert scale. Write down the name of each member at the space provided in your right-hand-side, and indicate the appropriate scores in the space provided in left-hand-side.

Of note: your responses will be kept <u>strictly confidential</u>. There are no right or wrong answer to any of your responses, please be open and honest in your responding.

Likert Scale:

1 = really dislike

2 = dislike

3 = somewhat dislike

4 = no opinion

5 = somewhat like

6 = like

7 = really like

_____   1. Name   _____

_____   2. Name   _____

_____   3. Name   _____
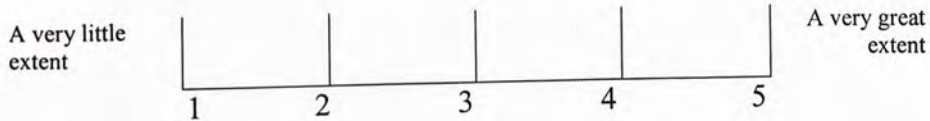
_____   4. Name   _____

Thank you for your time and attention.

Your group name   _____

Your name   _____

Your student #   _____

Appendix 2

The Group Interaction Measure.

You have already had experience of working with your group to complete assignment. Please rate your group on the following 5-point scale.

A very little
extent

1   2   3   4   5

A very great
extent

_____ 1. If you were enrolled in another group-oriented class like this one, to what extent would you like to be with the same people who are in your present group?

_____ 2. To what extent do you feel that working with this particular group will enable you attain the personal goals you hope to achieve in the class?

_____ 3. Compared to other groups in the class, to what extent do you feel your group works well together?

_____ 4. To what extent do the members of your group encourage each other to work as a team?

_____ 5. To what extent do the members of your group emphasize a team goal?

_____ 6. To what extent do the members of your group exchange opinions and goals?

_____ 7. To what extent do the members of your group encourage each other to give their best efforts?

_____ 8. To what extent do the members of your group maintain high standards of performance?