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The mechanism behind employee agreeableness and group performance ratings: a Pakistani study

Agreeableness
and group
performance
ratings

743

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Abstract

Purpose – This study seeks to examine the links between employee agreeableness, group performance, and peers' perceptions of threat of retaliation, through relationship conflict.

Design/methodology/approach – In a laboratory setting, 42 groups of undergraduate students ($N = 182$) from a Pakistani university were assigned to group projects to be completed within four months. Data collected from three different questionnaires at four different times and actual scores awarded by the course instructor to each group were used for the analyses. Based on $r_{WG(0)}$ and ICC(1), level 1 (182 students') data were aggregated to level 2 (groups), and then analysed using regression analysis followed by Preacher and Hayes' bootstrapping procedure.

Findings – Results suggest that high agreeableness predicts group performance positively and peers' perceptions of threat of retaliation negatively. Moreover, relationship conflict among group members significantly mediates the agreeableness-group performance relationship. The above relationships may be sensitive to national culture.

Research limitations/implications – In this study, groups were formed for a few months, whereas in real organizational life, workgroups are formed for different durations. Therefore, the range of situations to which these findings generalize remains an open question.

Practical implications – Agreeableness of group members can be constructive for performance of the group. Managers may utilize this insight while forming groups, and rating performance.

Originality/value – There is dearth of research illuminating how employee's personality traits affect group performance and appraisal ratings. The study tests the effects of employee agreeableness on: (1) group performance, as rated by supervisors; (2) the threat of retaliation, as perceived by peer raters; and (3) the mediating effect of relationship conflict.

Keywords Agreeableness, Group performance, Threat of retaliation, Relationship conflict

Paper type Research paper

1. Introduction

The present competitive business environment entails organizations to be structured around groups, especially for accomplishment of various tasks simultaneously (Acton *et al.*, 2019). However, managing individual differences among group members in terms of personality characteristics, *inter alia*, is reckoned a serious impediment to group performance (Gill *et al.*, 2020; Schippers, 2013). Specifically, group members' personality traits and their interrelationships are considered to affect the group's motivation and ability to solve problems, and hence, the group performance *per se* (Neuman *et al.*, 1999; Landis, 2016). The



current scholarship displays two main trends about the relationship between individual differences and group performance. One pertains to (dis)similarities between group members' personality traits (Tauni *et al.*, 2020) and the other focuses on the dark personality traits, e.g. narcissism (LeBreton *et al.*, 2018; Fernández-del-Río *et al.*, 2020). Pertaining to the former, the extant literature still seeks to address that why (dis)similar group members' agreeableness influences overall group performance (LePine *et al.*, 2011; Acton *et al.*, 2019). The present study aims to fill this gap by investigating the relationship between group members' agreeableness and group performance.

Agreeableness is a personality trait within standard personality measures such as the Big-Five and the HEXACO, and is a core feature of people's personal characters. Agreeableness has various facets that all have implications for how people relate to others. For instance, high agreeableness is associated with soft-heartedness, whereas low agreeableness is associated with ruthlessness. Similarly, trusting vs. suspicious, generous vs. stingy, friendly vs. antagonistic, good-natured vs. irritable, and the like are all facets of agreeableness (Furnham and Cheng, 2015; McCrae and Costa, 2003; Zhou *et al.*, 2015). The literature on personality traits considers agreeableness as an interpersonal dimension, and thus, assumes that high agreeableness contributes more positively to interpersonal and social interests than low agreeableness (Costa and Widiger, 1994; Schultz and Schultz, 2012). This implies that group members with high agreeableness may make a more constructive contribution to group performance than their counterparts with low agreeableness. Building on this line of reasoning, and in light of the existing literature (e.g. Acton *et al.*, 2019; Halfhill *et al.*, 2005), the present study attempts to investigate how agreeableness of group members predicts group functioning.

We specifically examine three assumptions. First, we test whether agreeableness of group members predicts subsequent group performance. Group members with high agreeableness may contribute more constructively to group performance than their counterparts with low agreeableness, especially in settings where interpersonal interactions are involved and strong communication and cohesion is needed (Bradley *et al.*, 2013a; Soane *et al.*, 2015; Kawase, 2016; Virga *et al.*, 2014). Thus, inclusion of more agreeable members in the group may increase the chances of good group performance and high supervisors' group performance ratings *per se*.

A second assumption is that group members' agreeableness influences the behaviour of their interaction partners. As suggested by various basic psychological insights involving for instance social influence, intragroup relations, cooperation and interdependence, the extant literature suggests that group members' personality traits are likely to influence perceptions of their peers, and subsequently, their social behaviours (Jehn *et al.*, 2015; Matthews *et al.*, 2009). That is, because of their compassionate and compliant behaviours, group members with high agreeableness increase the quality of their relationships with peers. This persuades peers to reciprocate and behave in a constructive manner. Hence, high agreeableness may decrease peers' perceptions of threat of retaliation. Contrary to this, group members with low agreeableness may decrease the quality of within-group relationships, thereby causing a higher degree of threat of retaliation among their peers, further tarnishing the group solidity.

Finally, a third assumption is that these effects of agreeableness are attributable to the likelihood of relationship conflict in interpersonal relationships. The extant literature suggests that incompatibility among personalities of group members, which mirrors relationship conflict, is common (Murayama *et al.*, 2015). By being irritable and antagonistic, group members with low agreeableness tend to generate relationship conflict, which can have detrimental consequences for the group (Ayoko and Pekerti, 2008). Furthermore, related studies (e.g. Bradley *et al.*, 2013a; De Dreu and Weingart, 2003) suggest that interpersonal conflict can have adverse effects on group performance. It has been suggested that agreeableness is more commonly demonstrated by individuals in collectivist Eastern cultures

such as Pakistan, China and India, where social relationships are valued more strongly than in individualist Western cultures such as North-West European countries and the US (Matthews *et al.*, 2009; Schultz and Schultz, 2012; Zhou *et al.*, 2015). Therefore, the present study considers relationship conflict to be a strong mechanism behind the relationship of agreeableness with group performance, and with peers' perceptions of threat of retaliation, especially in the context of a collectivist Asian culture where the present study is carried out.

The present study includes only agreeableness from the vault of personality traits. This is because agreeableness is a relationship-oriented personality trait that fits the purposes of the present study well (Halfhill *et al.*, 2005), as compared to other personality traits which are achievement- or task-oriented (e.g. conscientiousness) or emotion-oriented (e.g. emotional stability) (Bradley *et al.*, 2013a). The selection of this personality trait is useful as agreeableness is relational in nature, and while it may not necessarily affect individual's performance, it is likely to influence harmony among group members. We therefore deem our study useful for managers who seek group harmony and solidity.

Our study can be of value in certain ways. Previous studies assessed the relationships examined in our research model in piecemeal and from different perspectives. For instance, in her meta-analysis, Bell (2007) examined the relationship between group members' personality composition, including agreeableness, and group performance. Another meta-analysis of de Wit, *et al.* (2012) based on 116 empirical studies of intragroup conflict ($N = 8,880$ groups), examined the relationship between intragroup conflicts, including relationship conflict, and group performance. Furthermore, the recent work of Acton *et al.* (2019) assessed personality traits and group cohesion merely with self-reported data that include both the predictor (i.e. personality traits) and criterion (i.e. group cohesion) in the same setting. The results of the above-mentioned study hence were exposed to mono-method bias, and also did not address the relationship between personality and performance directly. Contrarily, our study overcomes the susceptibility of mono-method bias by collecting data from supervisors as well as group members and that at different times (i.e. Time 1, Time 2, Time 3 and Time 4). Our study makes a novel contribution to the body of knowledge by assessing how agreeable group members resolve relationship conflicts, thereby increasing group performance. Notably, the current study investigated agreeableness and group performance in the context of short-term groups. That is, group members assemble for a relatively short span of time, and disband quickly after the task accomplishment. Such groups are pervasive across diverse fields (Acton *et al.*, 2019). Thus, the findings of the study are likely to furnish new insights for relatively short-term groups.

Moreover, de Wit *et al.* (2012) operationalized group performance as a distal outcome that in terms of decision quality, innovativeness, effectiveness, and financial performance, but they did not focus on supervisory ratings of group performance. We deem this aspect a void to be filled for practical purposes. That is, organizational performance appraisal systems need to translate group performance into supervisory ratings for various purposes, including administrative purposes like promotion, salary increment; and strategic purposes like documentation, or litigation. The extant performance appraisal literature suggests that the contemporary organizations decipher supervisory ratings directly into performance outcomes, e.g. rewards (Iqbal, *et al.*, 2019). Furthermore, there is a dearth of literature on peers' perceptions of threat to retaliation, which play an important role towards group performance. Therefore, we consider our study useful for managers who are directly involved in group performance management.

Thus, to expand upon the above assumptions drawn from the extant literature, the present study pursues a threefold aim of examining the effect of employee agreeableness on: (1) group performance, as rated by supervisors; (2) the threat of retaliation, as perceived by peer raters; and (3) the mediating effect of relationship conflict among group members on the relationship between employee agreeableness and the supervisor's group performance

ratings and peers' perceptions of threat of retaliation (see Figure 1). In the following, we introduce each of these research goals in more detail.

2. Conceptual framework and hypotheses

In order to develop and empirically test our group performance model, we employ an input-process-output (IPO) framework. Introduced by Hackman and Morris (1975), this paradigm helps analyse group interaction as a group process mediating the relationship between group inputs and group outcomes. Later, Marks *et al.* (2001) defined team process as '[group] members' interdependent acts that convert inputs to outcomes through cognitive, verbal, and behavioral activities directed toward organizing taskwork to achieve collective goals' (p. 357) and differentiated it from 'emergent states'. They defined emergent states as 'constructs that characterize properties of the team that are typically dynamic in nature and vary as a function of team context, inputs, processes, and outcomes' (Marks *et al.*, 2001, p. 357).

Thus, considering the above definitions, an IPO framework can be applied when a mediating variable representing group members' interdependent acts is taken as team process, or when a mediating variable representing group members' attitudes is taken as an emergent state. Our research model (Figure 1) fits in the IPO framework representing relationship conflict as an 'emergent state' linking agreeableness (group input) with group performance and peers' perceived threat of retaliation (group outputs). More specifically, we place relationship conflict (the mediator) as an emergent state in the third category of the taxonomy of team processes developed by Marks *et al.* (2001). The first category is of transition processes that deal with team goals and strategies. The second category is of action processes that refers to team monitoring and coordination. And the third category is of interpersonal processes that refer to conflict, motivation and affect. This category represents the processes that group members use for managing interpersonal relationships. Notably, these interpersonal processes occur throughout both transition and action phases (Marks *et al.*, 2001).

Next, we discuss relationships between group input (agreeableness) and group outputs (group performance and peers' perceived threat of retaliation), followed by the role of group process (relationship conflict as a mediating variable) in the above relationships.

2.1 Agreeableness and supervisors' group performance ratings

Drawing from the literature on personality traits, agreeableness has more positive implications for social life, social interest, and social competence than antagonism (Costa and Widiger, 1994; Furnham and Cheng, 2015; Schultz and Schultz, 2012). As a consequence,

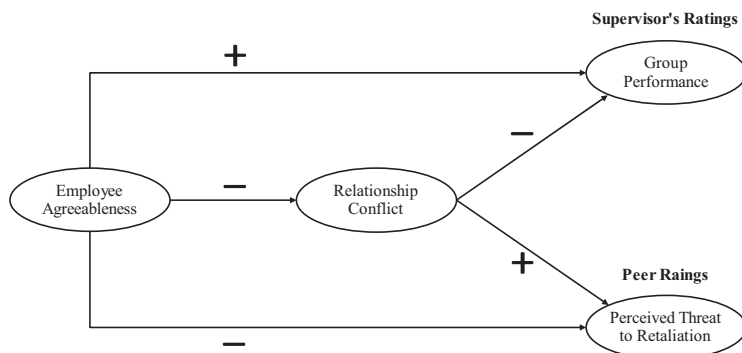


Figure 1.
Research model

people with high agreeableness are expected to be more effective in tasks that are targeted at the common good and that are performed collectively, compared to people with low agreeableness, who are a more likely source of within-group conflict (McCrae and Costa, 2003). People with high agreeableness tend to demonstrate tolerance even when they interact with peers displaying insolent behaviour (Ashton and Lee, 2009). Agreeable group members enhance group cohesion over the short-term (Acton *et al.*, 2019). Since influence of social relationships on organizational behaviours is no aberrant; hence group members with high agreeableness are expected to contribute more to group performance, compared to their counterparts with low agreeableness (Barrick *et al.*, 1998).

Matthews *et al.*'s (2009) assumption that personality affects cognitive information-processing functions (such as short-term recall, the capacity of working memory), which in turn affect behaviours seems relevant in the context of agreeable individuals' role in increasing group performance and supervisors' group performance ratings *per se*. Substantiating this assumption, the extant literature on group performance suggests that group members with high agreeableness more often exhibit prosocial behaviours at the workplace (e.g. trusting, helpful and altruistic) that lead their colleagues to reciprocate by behaving in the same manner. Usually, this helps to establish harmonious interpersonal relationships among group members, further leading to high group performance (Bradley *et al.*, 2013a; Kong *et al.*, 2015). Put differently, group members with agreeable behaviours tend to be helpful in the successful completion of a group task (Bhatti *et al.*, 2014; Mount *et al.*, 1998). Building on the above, agreeableness of an individual working in a group is likely to positively influence group performance. However, this causal process has not yet been empirically tested (Bradley *et al.*, 2013b).

Unlike people with high agreeableness, due to their authoritative nature people with low agreeableness tend to annoy other group members and thus harm group solidity (Moreland *et al.*, 2013), and thus, often they try to impose their opinions on group members, making them disgruntled. These acts could change the focus of all group members, as they may get distracted by the difficult interpersonal dynamics that they have to deal with instead of doing their 'work'. As a result, group performance dwindles down. Consequently, the above state of affairs is more likely to incite supervisors to award low performance ratings to the group. Thus, building on the extant literature that maintains that agreeable group members help their respective group secure high ratings from their supervisors (e.g. see Bernardin *et al.*, 2016), we hypothesize that:

- H1. Higher level of agreeableness of group members will predict higher supervisor's group performance ratings.

2.2 Agreeableness and peers' perceptions of threat of retaliation

Generally, group members tend to retaliate unsympathetic and uncaring actions of their peers, although with varying intensity. Specifically, group members are expected to oppose colleagues who may have contributed to organizational decisions that were unfavourable to them such as appraisal ratings (Cancino and Enriquez, 2004). Therefore, usually while writing appraisal reports, peers anticipate a possible threat of retaliation from other group members or group members. However, the less the ratee group member is agreeable, the more strongly the peer rater will perceive threat of retaliation. As a result, peers are more likely to inflate ratings of less agreeable group members, compared to agreeable ones, so that they avoid the potential risk of a vindictive response (Henik, 2014; Jain, 2015).

Consistent with basic psychological insights of reciprocity, cooperation, and interdependence, group members' personality traits are likely to influence perceptions of their peers, as well as their social behaviours (Jehn *et al.*, 2015; Matthews *et al.*, 2009). It stands to reason that peer raters tend to like group members with high agreeableness more than

those who are less agreeable (Field *et al.*, 2014). Therefore, group members high in agreeableness, who tend to be compassionate towards others, are likely to be treated tenderly by their peers, whereas group members low in agreeableness, due to their abrasiveness, may receive a vindictive response at the workplace (Costa and Widiger, 1994; Lee and Ashton, 2012; White *et al.*, 2012). This may be reflected in peer performance ratings, that is, group members with high agreeableness are expected to receive reactive cooperation and non-retaliation (which may manifest in more inflated peer ratings), whereas their counterparts with low agreeableness are expected to receive less reactive cooperation and retaliation (which may be in the form of more deflated peer ratings) (Bernardin *et al.*, 2016; Lee and Ashton, 2012). The empirical literature also substantiates these arguments. For example Hilbig *et al.* (2013) suggest that agreeableness has a positive significant correlation with reactive cooperation, that is, non-retaliation. As these group members are likely to have less relationship conflicts with other members (Asendorpf and Wilpers, 1998). In line with this, we hypothesize that:

- H2. Higher level of agreeableness of group members will predict lower perceived threat of retaliation from the group among peer raters.

2.3 Mediating role of relationship conflict

Hypotheses 1 and 2 suggest relationships between agreeableness, supervisors' group performance ratings, and peers' perceptions of threat of retaliation. However, an important question about the above relationships is what the mediating process is. To answer this, here we introduce the role of relationship conflict in the above-mentioned relationships.

Relationship conflict is an 'awareness of interpersonal incompatibilities [that] includes affective components such as feeling tension and friction' (Jehn and Mannix, 2001, p. 238). Based on previous research (e.g. Hede, 2007), the present study considers relationship conflict as a plausible mechanism linking high agreeableness with high supervisors' group performance ratings and low peers' perceptions of threat of retaliation, compared to other types of conflict, i.e. task conflict and process conflict. This is because relationship conflict arises due to incompatibilities among personalities of group members (Murayama *et al.*, 2015), which may influence interpersonal and social relationships among them. Furthermore, relationship conflict may make it difficult for group members to demonstrate mutual cooperation, resulting in poor performance and thus low group performance ratings. However, the case of group members with high agreeableness is quite different, as agreeable people are motivated to establish good interpersonal and social relationships that reduces their chances of being involved in relationship conflict (Jehn *et al.*, 2015; Randall and Sharples, 2012; Rot *et al.*, 2015; Templer, 2012; Zhou *et al.*, 2015).

Even if agreeable people happen to be in some quarrelsome situation, they try to mitigate relationship conflict by using their ability to control frustration and negative emotions, and by showing concern for others and their needs (Jordan, 2011; Tov *et al.*, 2016). Contrary to this, in some confrontational situation, individuals with low agreeableness usually try to assert their power and use an aggressive interpersonal style, leading to an escalation of relationship conflict, which has detrimental consequences for the group (Ayoko and Pekerti, 2008; White *et al.*, 2012). Ashton and Lee, (2009) describe agreeableness using two contrasting behaviours, that is, tolerance and anger. People with high agreeableness demonstrate tolerance even when they interact people with defiant behaviours. People with low agreeableness, in contrast, tend to return insolence to their counterparts.

Interpersonal incompatibilities among group members may generate misinterpretation of personality characteristics, intentions and accuracy of arguments of each other, which may further stimulate group members to behave aggressively towards one another (Parayitam *et al.*, 2010; Simons and Peterson, 2000). When group members reach a point where they

experience strain and annoyance, exchange harsh words, use aggressive tactics, and show anger, frustration and jealousy towards other group members, they are considered to be involved in relationship conflict (Jehn, 1997). In this state, group members are less likely to trust each other, feel contended, work with devotion and demonstrate cognitive ability; and as a consequence, the group underperforms (Bisseling and Sobral, 2011; Han and Harms, 2010). Whilst, groups that have less agreeable group members are expected to experience episodes of relationship conflict more often, which in turn can affect the group performance or create conditions for poor group performance and vice versa (De Dreu and Weingart, 2003).

The extant literature suggests that individuals with high agreeableness are prone to reduce the negative impact of relationship conflict and make the group vibrant, lowering the perceptions of threats to individuals from other group members. However, the extant literature provides mixed findings on the link between relationship conflict and group performance, especially for those group members who demonstrate high agreeableness (see, e.g. Wei *et al.*, 2020). Considering that threat of retaliation and relationship conflict are distinct but interconnected phenomena, we assume that relationship conflict has the potential to mediate the relationship between agreeableness and peers' perception of threat of retaliation (Hede, 2007; Jensen-Campbell and Graziano, 2001; Kong *et al.*, 2015; Medina *et al.*, 2005; Virga *et al.*, 2014). Building on the above considerations, we propose that relationship conflict can be a central variable in the research model of this study. Its inclusion in the present study can provide a deeper understanding of the expected relationships between agreeableness and group performance and threat of retaliation. Thus, we hypothesize that:

- H3. Higher level of agreeableness of group members will alleviate relationship conflict among group members, which in turn may ensue high supervisors' group performance ratings.
- H4. Higher level of agreeableness of group members will alleviate relationship conflict among group members, which in turn will decrease peer raters' perceived threat of retaliation from the group.

3. Method

3.1 Participants

Undergraduate students of business administration ($N = 182$, males = 108 and females = 74) enrolled in a leading university in Islamabad, Pakistan, were recruited as participants. The language of instruction was English. Most of them were full-time students ($n = 172$) and were self-financed ($n = 171$). Forty-two groups of these students were formed, and each group was assigned to a group project. Average group size was four.

3.2 Measures

3.2.1 Agreeableness. Agreeableness was measured using 10 items of the HEXACO 60-item scale (Ashton and Lee, 2009). However, two items were excluded from the analyses to increase the statistical reliability of the scale. Instead of using self-reports, we measured agreeableness through peer ratings (see procedure section). For this purpose, items were modified by replacing the personal pronoun 'I' with 'He/she'. A sample item is: 'He/she is usually quite flexible in his/her opinions when group members disagree with him/her'. The scale was anchored to a five-point Likert-type scale (1 = *strongly disagree*, 5 = *strongly agree*). Cronbach's reliability coefficient is $\alpha = 0.71$ and composite reliability is $\rho_c = 0.78$. The reliability coefficients of agreeableness in this study and previous research in Pakistan are alike (e.g. Asad and Najam, 2015: $\alpha = 0.71$).

3.2.2 Relationship conflict. Relationship conflict was measured by using three items of Jehn's (1995) scale. A sample item was: 'How much personal friction is there among members in your group?' This scale was anchored to a five-point Likert-type scale (1 = none, 5 = a lot). Cronbach's reliability coefficient is $\alpha = 0.68$, which is just under the threshold of 0.70. However, the composite reliability is $\rho_c = 0.81$, which mitigates this potential problem. Moreover, the reliability coefficient of relationship conflict in our study is close to the one in previous research in Pakistan (e.g. Iqbal and Fatima, 2013: $\alpha = 0.74$).

3.2.3 Supervisor's group performance ratings. The course instructor awarded scores (out of 25) to each group at the end of the semester, which we used as supervisor's group performance ratings. For a study like the present one, the literature considers actual scores awarded by the supervisor a better measure of group performance than perceived group performance, as self-reported by the group members (see Nasim and Iqbal, 2019).

3.2.4 Peer raters' perceived threat of retaliation. Instead of using direct measures, we deemed it more suitable for the present study to elicit data on threat of retaliation using an indirect approach. Specifically, in collectivist societies, people tend to respond in a socially desirable manner in order to minimize differences amongst them (Anderson et al., 2001). In such an environment, the cultural context plays a pivotal role in shaping individuals' behaviour (Ma, 2007). Like most Asian countries, Pakistan has a high context culture (that refers to use of 'implicit and indirect language in which words and phrases derive their meanings from contextual clues'; Ma, 2007, p. 262) where people demonstrate less reactive behaviour. They try to save face by suppressing their negative feelings for others, and thus, they tend to avoid explicitly reporting instances resulting negative outcomes (Kim et al., 1998). Therefore, while employing Mero et al. (2007) approach, and based on Wiedower's (2001) scale, we used 15 peer performance-related items for eliciting peer raters' perceived threat of retaliation. Sample items were: 'He/she has produced results at the earliest time' and 'He/she has accuracy in his/her work'. Each group member was asked to rate the performance of all group members twice. While eliciting their response on the first time, participants were asked to provide ratings about group members while imagining that they are rating peers' performance for developmental purposes ($\alpha = 0.91$). However, after one month, while eliciting their responses a second time, they were asked to provide ratings about group members while imagining that they are rating peers' performance for evaluative purposes ($\alpha = 0.81$). Our analysis indicates that there is a significant difference in the peer ratings of group performance, $t(df = 181) = 6.79, p < 0.01$, for developmental purposes ($M = 3.80, SD = 0.64$) and for evaluative purposes ($M = 3.36, SD = 0.62$). On eliciting both the ratings, peer ratings for developmental purposes were subtracted from peer ratings for evaluative purposes. This procedure provided an estimate of how much the ratings were inflated. According to research on performance appraisal, these inflated ratings are accounted for by perceived threat of retaliation (Mero et al., 2007).

3.2.5 Control variables. Methodological concerns exist about the use of control variables because these can have unintended effects on the criterion variables (see, e.g. Becker, 2005; Spector and Brannick, 2011; Carlson and Wu, 2012). On the contrary, there are also clear benefits in identifying the likely effects of nuisance variables, *inter alia*, by employing statistical control. For instance, literature on group performance suggests that group members' experience, interdependence within a group (Saffie-Robertson and Brutus, 2014), external communication of group members, and the supervisor's help (Bernardin et al., 2000) can affect group performance ratings. Meaning thereby, the above variables can potentially influence the criterion, which entails statistical control. Being mindful of the above competing concerns, at the first place, we deemed it appropriate to use group members' experience, interdependence within a group, the level of external communication with other groups and an instructor's help as control variables. Group members' experience was measured as 1 = Less than 3 group projects, 2 = 4 projects, 3 = 5 projects, and 4 = 6 projects or more.

Interdependence within a group, the level of external communication with other groups and an instructor's help were measured as 1 = low, 2 = medium, and 3 = high. Having analysed the results while including control variables in the model, we then analysed the results without control variables. We found no significant effect of any control variables on the criterion. Moreover, we found no significant difference between results that with and without control variables. Thus, considering recommendations of [Becker \(2005\)](#) on the use of control variables and in order to communicate the results of our study more succinctly, we reported results without control variables in the manuscript.

3.3 Procedure

After attaining consent of the instructor teaching to a large undergraduate class for participation in the present research, we discussed and agreed upon the type of group projects to be assigned to the students. Projects contained both field work (e.g. primary or secondary data/information collection) and documentation. The group projects were planned to have incremental assignments, so that group members would have frequent interaction among them, almost every working day. Each project spanned four months. Data were collected at four different times. In the first week of the semester, data were collected on students' demographics (Time 1, Questionnaire 1). After four weeks (Time 2, Questionnaire 2), the second questionnaire, containing the agreeableness scale, and their self-reported tendency towards relationship conflict, were administered. Questionnaires were distributed according to group size, as each group member had to fill a separate questionnaire about each group member; for instance, in a group of four each participant had to fill out three questionnaires, leading up to a total of 12 questionnaires within that group. In this fashion, overall 182 participants filled out 616 questionnaires. On the final submission of the group projects by the students (Time 3, Questionnaire 3), they were asked to fill out the third questionnaire, giving developmental peer ratings. Similarly, after one more month (Time 4, Questionnaire 3), using the same scale in the same manner, participants were asked to fill out the same questionnaire, giving evaluative peer ratings. The purpose of obtaining two performance ratings (developmental and evaluative) was to estimate the difference between them. Peer ratings were elicited in such a way that each group member had to give separate ratings about each group member. After the declaration of semester results (Time 5), actual scores awarded by the course instructor to each group were attained and then used as the supervisors' group performance ratings.

3.4 Data analysis approach

With the aim to validate measurement instruments and control for common method bias (CMB), we used the variance-based structural equation modelling technique, also known as partial least squares – PLS-SEM. We performed these analyses on individual level data ($N = 182$) in WarpPLS 6 ([Kock, 2018](#)). We then performed data aggregation by using the Excel-based statistical tool created by [Biemann et al. \(2012\)](#). Finally, we performed regression analyses in SPSS 19 and employed a bootstrapping method with 5000 iterations ([Preacher and Hayes, 2008](#)) for mediation analysis on group level data ($N = 42$).

3.4.1 Validation of measurement instruments. Prior to data aggregation, we assessed 10 classic model fit and quality indices to verify the factor structure for our measures and five additional model fit indices to examine the fit between the model-implied and empirical indicator correlation matrices. [Table 1](#) presents the above indices, their values, and threshold values for their acceptance (for description about these indices, see [Kock, 2018](#)). These results suggest that fit indices fall within the acceptable limits. We then assessed measurement reliability and validity. As suggested by [Hair et al. \(2014\)](#), for assessing reliability, we estimated both Cronbach's α coefficients and composite reliability coefficients (ρ_c). This was

Table 1.
Goodness of fit

Index	Result	Benchmark
<i>Classic Fit Indices</i>		
Average Path Coefficient (APC)	0.25 ***	$p < 0.05$
Average R^2 (ARS)	0.13 *	$p < 0.05$
Average Adjusted R^2 (AARS)	0.13 *	$p < 0.05$
Average Block Variance Inflation Factor (AVIF)	1.02	Ideal: ≤ 3.3 , Acceptable: ≤ 5
Average Full Collinearity VIF (AFVIF)	1.56	Ideal: ≤ 3.3 , Acceptable: ≤ 5
Tenenhaus Goodness of Fit (GoF)	0.31	Small: ≥ 0.10 , Medium: ≥ 0.25 , Large: ≥ 0.36
Simpson's Paradox Ratio (SPR)	1.00	Ideal: = 1.00, Acceptable: ≥ 0.70
R^2 Contribution Ratio (RSCR)	1.00	Ideal: = 1.00, Acceptable: ≥ 0.90
Statistical Suppression Ratio (SSR)	1.00	Acceptable: ≥ 0.70
Nonlinear Bivariate Causality Direction Ratio (NLBCDR)	1.00	Acceptable: ≥ 0.70
<i>Additional Fit Indices</i>		
Standardized root mean squared residual (SRMR)	0.13	Acceptable: ≤ 0.10
Standardized mean absolute residual (SMAR)	0.10	Acceptable: ≤ 0.10
Standardized Chi-squared (SChS) [$\chi^2(df)$]	1.01 (119) ***	$p < 0.05$
Standardized threshold difference count ratio (STDCR)	0.89	Ideal: = 1.00, Acceptable: ≥ 0.70
Standardized threshold difference sum ratio (STDSR)	0.72	Ideal: = 1.00, Acceptable: ≥ 0.70
Note(s): * $p < 0.05$, *** $p < 0.001$; $N = 182$		

done because Cronbach's α alone may underestimate the internal consistency of latent variables in PLS. For the constructs of agreeableness and relationship conflict, both α values (0.71 and 0.68) and ρ_c values (0.78 and 0.81) satisfy.

We established construct validity of the multi-item measures of agreeableness and relationship conflict. First, in absolute terms, factor loadings of all indicators on their respective constructs satisfied the criterion, ≥ 0.33 , $p < 0.05$ (0.40–0.79, $ps < 0.001$), except for two items which were eliminated before the final analysis. Secondly, the square root of average variance extracted ($\sqrt{\text{AVE}}$) of each latent variable was found to be greater than its correlations with any other latent variables. Furthermore, indicators of each latent variable were found to have greater loadings on its own latent variable, compared to cross-loadings. In absolute terms, all factor loadings (0.40–0.79) were greater than the respective cross-loadings (0.01–0.23). More importantly, all cross-loadings appeared to be lower than 0.33 (Ho, 2006).

In order to ensure that the empirical relationships are unaffected by any hidden confounder, we checked for internal validity. We examined correlations among endogenous variable error terms and their respective variance inflation factors (VIFs). As suggested by Kock (2018), our estimates met both the criteria: (1) both correlations between the error terms were non-significant (0.00, $p > 0.05$); and (2) VIF associated with the error terms were ≤ 3.3 (ranged between 1.00–1.61). Hence, the above validation of measures suggests no threats to internal validity of our results.

3.4.2 Common method bias. With the aim to control for common method bias (CMB), we used a more extant and pertinent method to identify CMB, i.e. the full collinearity test-based approach (Kock, 2015). This approach helps identify inflation or deflation of path coefficients due to both lateral (predictor-criterion) and vertical (predictor-predictor) collinearities. We estimated the variance inflation factor (VIF) for each construct. All VIF values were found to be acceptable (≤ 3.3), i.e. 1.09–2.11 (Kock, 2018). Moreover, Average Block Variance Inflation Factor (AVIF = 1.02) and Average Full Collinearity Variance Inflation Factor (AFVIF = 1.56) were found to be ideal (≤ 3.3), see Table 1. All the above estimates suggested that CMB was unlikely to be a problem.

3.4.3 Data aggregation. The data were hierarchically structured, i.e. 182 students (level 1) nested in 42 groups (level 2). Thus, for aggregating level 1 data on the variables of agreeableness, relationship conflict, and peer ratings (developmental and evaluative) to level 2, we employed consensus composition model (Biemann *et al.*, 2012). Consistent with the theme of the study, i.e. group performance ratings, we preferred referent-shift consensus (individual group members respond to survey questions at group level, as we did, e.g. 'How much personal friction is there among members in your group?', 'Group members think of him/her as someone who has a quick temper') to direct consensus (when each individual group member gives his/her personal opinion in response to survey questions) (Chan, 1998).

As preconditions to data aggregation, we assessed inter-rater agreement, also known as within-group agreement ($r_{\text{WG}(J)}$, where J = number of items in a scale) and inter-rater reliability, also known as the intra-class correlation coefficients (ICC(1)) of level 1 variables of agreeableness, relationship conflict, and peer ratings (developmental and evaluative). We estimated $r_{\text{WG}(J)}$, ICC(1), ICC(2), and one-way ANOVA based F ratio using the Excel-based statistical tool created by Biemann *et al.* (2012) (see Table 2). Although traditionally $r_{\text{WG}(J)} = 0.70$ has been considered a cutoff point for establishing 'high versus low agreement', contemporary researchers consider this value less useful for justifying aggregation. This is because $r_{\text{WG}(J)}$ is contingent upon group size as well as response categories (e.g. a 5-, 7-, or 9-point Likert scale). Thus, 'strong versus weak agreement' based on values of $r_{\text{WG}(J)}$ is appreciated, that is, *lack of agreement* = 0.00 to 0.30, *weak agreement* = 0.31 to 0.50, *moderate agreement* = 0.51 to 0.70, *strong agreement* = 0.71 to 0.90, and *very strong agreement* = 0.91 to 1.00 (LeBreton and Senter, 2008).

Table 2.
Aggregation results for
consensus composition
models

Measure	$r_{WG0}^{uniform}$		$S^2_{E_i}$	$r_{WG0}^{measure-specific}$		F ratio	ICC(1)	ICC(2)
	M	SD		M	SD			
Agreeableness	0.95	0.03	1.34	0.90	0.08	2.76***	0.29	0.64
Relationship Conflict	0.61	0.33	1.34	0.42	0.35	1.90**	0.17	0.47
Performance Evaluation – Evaluative	0.95	0.15	1.34	0.94	0.15	2.98***	0.31	0.66
Performance Evaluation – Developmental	0.98	0.01	1.34	0.96	0.03	8.08***	0.62	0.88

Note(s): ** $p < 0.01$, *** $p < 0.001$; Shape: Slight Skew, $N_{i,level 1} = 182$, $N_{i,level 2} = 42$

Furthermore, inter-rater agreement (within group agreement – $r_{WG(j)}$) alone is not considered appropriate for justifying aggregation as this together with inter-rater reliability (intra-class correlation – ICC(1)) is. Like $r_{WG(j)}$, researchers have suggested a cut-off point of ICC(1) ≥ 0.05 for justifying aggregation (Biemann *et al.*, 2012). Mirroring $r_{WG(j)}$, again LeBreton and Senter (2008) suggest that interpreting ICC(1) in terms of effect size may be preferred to any arbitrary cutoff point, that is, values of ICC(1) ≥ 0.01 , 0.10, and 0.25 may be considered as small, medium, and large effect, respectively. Building on the above, inter-rater agreement and inter-rater reliability coefficients shown in Table 2 provide strong support for data aggregation of the variables of agreeableness and peer ratings (both for evaluative and developmental purposes), and moderate support for data aggregation of relationship conflict. Taking all these estimates together, we deem it appropriate to aggregate individual level data to the group level, and further analyse it to test hypotheses at the group level.

It is pertinent to mention that we aggregated level 1 data to level 2 by calculating mean scores of individual measures as method of operationalizing group member characteristics. As suggested by Barrick *et al.* (1998), this method is considered more appropriate than alternative ones, e.g. variance. By using mean scores, the amount of each individual group member's characteristic, e.g. individual's agreeableness, increases the collective pool of that characteristic, e.g. group agreeableness. Moreover, mean scores appear to be a more appropriate method of operationalizing group member characteristics when research includes group performance and pooling individual group members' characteristics is required for group performance. Substantiating this, Halfhill *et al.* (2005) suggest group mean agreeableness scores to have direct and group variance agreeableness scores to inverse relationship with group performance.

3.4.4 Hypothesis testing. We performed regression analysis to test the baseline hypotheses and mediation effect of relationship conflict on the relationships between agreeableness, and supervisor's group performance ratings and peers' perceptions of threat of retaliation. We employed Baron and Kenny's (1986) procedure to assess whether the three necessary conditions (separate regression equations) for mediation are satisfied. To satisfy the first condition that the independent variable (IV) should significantly predict the mediating variable (MV), we tested the relationship between IV (agreeableness) and MV (relationship conflict) (Model 1). To satisfy the second condition that the MV should significantly predict the dependent variable (DV), we tested the relationships between the MV (relationship conflict) and DVs (supervisors' group performance ratings and peers' perceptions of threat of retaliation) (Model 2).

Finally, to satisfy the third condition that requires that inclusion of the MV as predictor in the regression equation along with the IV should weaken the effect of the IV on the DV, we tested the equation (Model 3) wherein the DVs (supervisors' group performance ratings and peers' perceptions of threat of retaliation) were regressed on both the IV (agreeableness) and MV (relationship conflict) simultaneously. Additionally, in order to supplement the mediation analysis, we further employed Preacher and Hayes' (2008) bootstrapping procedure (5000 iterations, bias-corrected, 95% Confidence Intervals (CI)) using the custom dialogue (PROCESS).

4. Results

Table 3 shows descriptive statistics, i.e. mean, SD, minimum and maximum scale values and correlation coefficients. In line with the hypothesized relationships, agreeableness is positively related with supervisors' group performance ratings ($r = 0.58$, $p < 0.001$), and negatively related with peers' perceived threat of retaliation ($r = -0.46$, $p < 0.01$) and relationship conflict ($r = -0.38$, $p < 0.05$). Similarly, as expected, relationship conflict is

Table 3.
Mean, standard deviation, minimum and maximum scales values and correlation coefficients

	<i>M</i>	<i>SD</i>	<i>Min</i>	<i>Max</i>	1	2	3	4	5	6	7	8
1. Group Members' Experience	3.21	0.87	1	4	1							
2. External Communication	2.17	0.38	1	3	0.19	1						
3. Interdependence	2.02	0.35	1	3	0.14	-0.22	1					
4. Instructor's Help	2.24	0.53	1	3	-0.01	-0.08	0.10	1				
5. Agreeableness	3.28	0.36	1	5	-0.24	-0.24	0.07	0.46**	1			
6. Relationship Conflict	2.31	0.58	1	5	0.19	0.02	0.16	-0.17	-0.38*	1		
7. Group Performance Ratings (Supervisor)	16.95	5.05	1	25	-0.04	-0.12	-0.08	0.11	0.58***	-0.48**	1	
8. Perceived Threat to Retaliation (Peer)	1.48	0.67	1	3	0.07	-0.03	0.06	0.02	-0.46**	0.28 ^{ns}	-0.81***	1

Note(s): * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; ^{ns} = not significant, $N = 42$

negatively related with supervisors' group performance ratings ($r = -0.48, p < 0.01$). However, contrary to our expectation, the correlation between relationship conflict and peers' perceived threat of retaliation is nonsignificant ($r = 0.28, ns$).

We then used regression analysis to test the hypothesized relationships (Table 4). Hypothesis 1 pertains to the relationship between agreeableness of group members and the supervisor's group performance ratings. The results indicate that agreeableness of group members positively predicts the supervisor's group performance ratings ($\beta = 0.58, t = 4.55, p < 0.001$), thus, Hypothesis 1 is supported. Hypothesis 2 pertains to the relationship between agreeableness of group members and peer raters' perceived threat of retaliation from the group. The results indicate that agreeableness of group members negatively predicts peer raters' perceptions of the threat of retaliation from the group ($\beta = -0.46, t = -3.25, p < 0.01$). Thus, Hypothesis 2 is supported.

Hypothesis 3 pertains to the mediating effect of relationship conflict among group members in the relationship between agreeableness and supervisor's group performance ratings. Per Baron and Kenny's (1986) procedure our data satisfied all three conditions: First, as hypothesized, agreeableness (IV) significantly negatively predicted relationship conflict (MV) (Model 1: $\beta = -0.38, t = -2.60, p < 0.05$). Second, as hypothesized, relationship conflict (MV) significantly negatively predicted supervisors' group performance ratings (DV) (Model 2: $\beta = -0.48, t = -3.43, p < 0.01$). Final, as hypothesized, on the inclusion of relationship conflict (MV) as predictor in the regression equation along with agreeableness (IV) weakened the effect of agreeableness on supervisors' group performance ratings (DV) (Model 3). That is, the effect of relationship conflict (MV) was significant ($\beta = -0.30, t = -2.26, p < 0.05$) while the effect of agreeableness (IV) was smaller, albeit still significant ($\beta = 0.47, t = 3.56, p < 0.01$). Substantiating the above, Preacher and Hayes' (2008) bootstrapping procedure (PROCESS) revealed a significant indirect effect. As indicated by the fact that the 95% confidence interval excludes zero, the indirect effect of agreeableness on supervisors' group performance ratings via relationship conflict is significant, $B = 1.59, SE = 0.93, CI_{95\%} [0.19; 4.04]$. Overall the mediation model was significant, $R^2 = 0.42, F(2; 39) = 13.95, p < 0.001$. Thus, Hypothesis 3 is supported.

Hypothesis 4 pertains to the mediation effect of relationship conflict among group members on the relationship tested in Hypothesis 2, i.e. higher level of agreeableness of group members is likely associated with diminished relationship conflict among group members, which in turn may predict decreased peer raters' perceived threat of retaliation. Following the same procedure as for Hypothesis 3, we tested the relationship between agreeableness and relationship conflict (condition 1) and found support for the negative relationship between them (Model 1: $\beta = -0.38, t = -2.60, p < 0.05$). Further, we tested the relationship between relationship conflict and peer raters' perceived threat of retaliation (condition 2), but found no support for the negative relationship between them (Model 2: $\beta = 0.28, t = 1.84, ns$). Furthermore, we tested condition 3 (Model 3) wherein peer raters' perceived threat of retaliation was regressed on both agreeableness and relationship conflict simultaneously. Results revealed that the effect of relationship conflict (MV) was again insignificant ($\beta = 0.12, t = 0.81, ns$) while the effect of agreeableness (IV) increased further ($\beta = -0.41, t = -2.69, p < 0.05$). Substantiating the above, Preacher and Hayes' (2008) bootstrapping procedure (PROCESS) revealed no significant indirect effect, $B = -0.09, SE = 0.12, CI_{95\%} [-0.39; 0.11]$. Thus, Hypothesis 4 is not supported.

4.1 Supplementary analysis

While testing the hypotheses, we were mindful of the fact that group composition pertaining to group agreeableness, that is, the number of agreeable group members in each group, can cause variation in dependent variables of group performance ratings (supervisors) and threat

Table 4.
Relationship between
Ratees' Agreeableness,
and Group
Performance Ratings
(Supervisor) and
Perceived Threat to
Retaliation (Peer) –
Standardized β
weights

	Mediation through RC for Ag and GPR			Mediation through RC for Ag and PTR		
	Model 1: Ag-RC	Model 2: RC-GPR	Model 3: Ag and RC to GPR	Model 1: Ag-RC	Model 2: RC-PTR	Model 3: Ag and RC to PTR
Agreeableness	0.58 ^{***}	-0.38 [*]	0.47 ^{**}	-0.46 ^{**}	-0.38 [*]	-0.41 [*]
Relationship Conflict	0.34	0.14	-0.30 [*]	0.21	0.14	0.12 ^{ns}
R^2	0.32	0.23	0.42	0.19	0.08	0.22
ΔR^2	20.70 ^{***}	0.21 ^{***}	0.39	10.57 ^{**}	0.06	0.18
F		11.78 ^{***}	13.95 ^{***}	3.39 [†]	6.74 [*]	5.57 ^{**}

Note(s): † $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$, ns = not significant, $N = 42$, Ag = Agreeableness, RC = Relationship Conflict, GPR = Group performance ratings (Supervisor), PTR = Perceived Threat of retaliation (Peers)

of retaliation (peers). Thus, we carried out a supplementary analysis of data on group agreeableness by categorizing it into four categories, i.e. ‘More agreeable individuals in a group’, ‘More disagreeable individuals in a group’, ‘An equal number of agreeable and disagreeable individuals in a group’, and ‘Neutral individuals in a group (participants who scored near the scale midpoint for agreeableness)’, for details and descriptive statistics see Table 5. Results of a one-way ANOVA reveal significant mean differences between these categories both for group performance ratings (supervisors) [$F(3, 38) = 193.38, p < 0.001$] and perceived threat of retaliation (peers) [$F(3, 38) = 48.09, p < 0.001$].

Table 5 and Figure 2 show that groups containing more agreeable members received higher group performance ratings ($M = 20.15$) compared to groups having equal number of agreeable and disagreeable members ($M = 16.50$), members neutral on agreeableness ($M = 12.20$), and more disagreeable members ($M = 4.33$). Likewise, groups containing larger number of agreeable members perceived lower threat of retaliation (peers) ($M = 1.07$) compared to groups having equal numbers of agreeable and disagreeable members ($M = 2.00$), members neutral on agreeableness ($M = 2.00$), and high number of disagreeable members ($M = 3.00$). Furthermore, we conducted a post-hoc analysis using Scheffe’s test. The results indicate that, both supervisors’ group performance ratings and peers’ perceptions of threat of retaliation had significantly different means across above-mentioned group composition of group agreeableness, with few exceptions though (Table 5).

5. Discussion

Building on the interpersonal dimension of personality traits and group performance literature, the present study focused on agreeableness in order to examine its association with group performance from three angles. That is, we examined the role of agreeableness in the context of supervisors’ group performance ratings (1), peer raters’ perceived threat of retaliation (2), and relationship conflict as mediator of these two relationships (3). Furthermore, the present study sought to provide empirical evidence for the above relationships in a sample drawn from Pakistan, a country that does not frequently form the background of empirical research, and that may contribute to cross-cultural validation of basic psychological and organizational processes.

In pursuing the first objective of the present study, we find that agreeableness predicts supervisors’ group performance ratings positively. Consistent with Matthews *et al.*’s (2009) assumption that personality affects information processing functions, which in turn affects behaviours, our findings imply that group members with high agreeableness can influence the psychological processes underlying group performance. For example, because they trust others, group members with high agreeableness are considered trustworthy, and thus, the

Group agreeableness Group composition	N	Dependent variable							
		Group performance ratings (supervisor)				Threat of retaliation (peers)			
		M	SD	Min	Max	M	SD	Min	Max
More agreeable individuals in a group	27	20.15 _a	1.29	16	22	1.07 _a	0.27	1	2
More disagreeable individuals in a group	3	4.33 _b	1.16	3	5	3.00 _b	0.00	3	3
Equal agreeable and disagreeable individuals in a group	2	16.50 _c	2.12	15	18	2.00 _c	0.00	2	2
All individuals in a group are neutral on agreeableness	10	12.20 _d	1.23	10	14	2.00 _c	0.47	1	3
Total	42	16.95	5.05	3	22	1.48	0.67	1	3

Note(s): Means with no subscript in common differ significantly as indicated by Scheffe’s test ($p < 0.05$)

Table 5.
One-way ANOVA –
descriptive statistics

overall work environment becomes trustful. Similarly, because of their altruistic nature, group members with high agreeableness tend to generate a feeling of cohesion with other group members. The trustful environment and feeling of cohesion with group members can

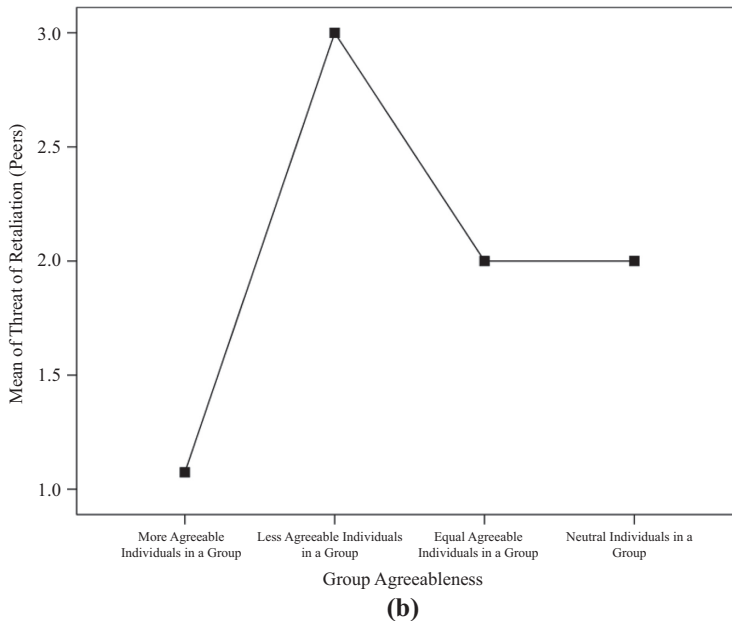
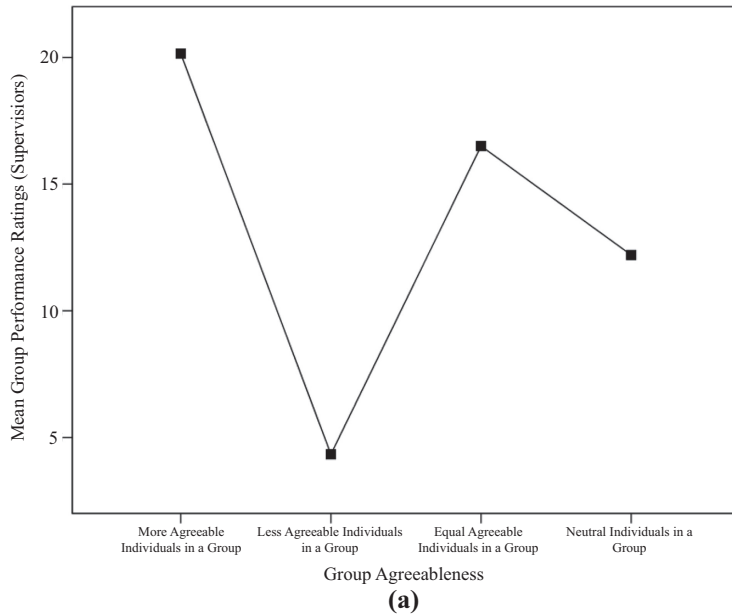


Figure 2. Mean plots of group performance ratings (supervisors) and threat of retaliation (peers) across levels of group agreeableness

further motivate them to pursue the group goals. As a result, groups can achieve high group performance, and secure high supervisors' group performance ratings *per se*. The results of the study are consistent with literature that highlights the relationship between personality traits and group performance (see, e.g. Gill *et al.*, 2020; Schippers, 2013).

Regarding the second objective, we find that agreeableness relates negatively to peer raters' perceived threat of retaliation. This means that group members with high agreeableness are less likely to exert power on their peers, and thus, subdue perceived threat of retaliation among them (Asendorpf and Wilpers, 1998). Inclusion of group members with high agreeableness in a workgroup can increase intergroup harmony, which in turn may help improve the level of group solidity and a sense of group identity among group members (Bradley *et al.*, 2013a; Kong *et al.*, 2015). Moreover, due to their compassionate, tender, and generous behaviours, group members with high agreeableness contribute toward brushing up the image of the group in the eyes of its members. Therefore, while rating the group members' performance, peer raters are less likely to experience threat of retaliation from the group that contains agreeable individuals.

In connection with the third objective of the study, our findings support Hypothesis 3 that group members with high agreeableness are less likely to trigger relationship conflict, which in turn increases group performance ratings. This finding coincides with a previous study that reported an influence of personality traits and group members' interrelationships on group performance (see, e.g. Landis, 2016). However, the present study could not find the mediating role of relationship conflict in the relationship between agreeableness and peers' perceived threat of retaliation (Hypothesis 4). A previous study of Wei *et al.* (2020) yielded similar results and reported a nonsignificant association between relationship conflict and group performance when a group member scored high on agreeableness. This implies that the presence of agreeable people in the group can create an environment wherein peers are less likely to feel threat of retaliation, regardless of the occurrence of relationship conflict. Perhaps, this is because of peers' confidence in agreeable individuals that they can handle relationship conflict better. Another possible reason for the lack of support for Hypothesis 4 could be conflict duration, as in the short-run intensity of relationship conflict tends to be lower than long-term relationship conflict (Iqbal and Fatima, 2013). Since the experimental set-up created for the present study spanned only four months, this could possibly explain the non-significant effect of relationship conflict on peers' perceptions of threat to retaliation.

5.1 Theoretical implications

The present study has theoretical value by combining three knowledge areas, namely personality characteristics, interpersonal conflict, and group performance. This study has attempted to establish the role of a central personality trait in the context of group performance, i.e., agreeableness. We hope that establishing the relationship between agreeableness, relationship conflict and group performance will motivate researchers to further expand on these issues. Specifically, pertaining to the context wherein the present study is carried out, i.e., Pakistan, we consider that our study advances the agenda of recent research (Khan and Iqbal, 2019) that suggests interpersonal personality configurations, including agreeableness, may enhance employee performance related outcomes. This study provides novel directions for future research on the role of interpersonal personality configurations towards performance of the stakeholders, which our study addresses partially.

5.2 Practical implications

The findings of the present study have practical implications for organizations, which benefit from group members who deliver high group performance. The study can help managers

understand that agreeableness is a personality trait that has important behavioural and interpersonal consequences. Agreeableness of group members can be helpful in bringing out positive outcomes for the whole group. On the contrary, disagreeableness of group members can be harmful towards group outcomes. Therefore, at least at two stages, managers need to be careful: First, while forming work groups, and second, when they rate the group's performance. Disagreeable group members may not be allowed to step out the workgroup, but either they may be engaged in tasks which can be assumed single-handedly or included in some group wherein other members are behaviourally well-equipped (e.g. confident, competent and emotionally stable). Regarding group performance, managers may consider coupling group performance with individual performance so that star performers do not get low ratings, decreasing morale. Moreover, in a multisource feedback system, managers may rely more on developmental peer ratings than evaluative peer ratings, especially when peer ratings are sought.

As low agreeableness can trigger relationship interpersonal conflict, disagreeable group members may not be given a leading role in the group so that they do not misuse their power position and exert an overly dominant influence on group members, fuelling process conflict. Similarly, managers may encourage communication openness and participation, so that group members could know each other, and thus, they do not get enough chances to be involved in relationship conflict with group members. Substantiating the above notion, a recent experimental study in the Pakistani context suggests that communication quality positively predicts group performance (see [Nasim and Iqbal, 2019](#)).

Here, we deem it pertinent to shed some light on a paradox that on the one hand managers consider that group formation should be based on mixed personality profiles, but on the other hand, it is functional for the group if all members are high on agreeableness. Managers may bear in mind that high agreeableness can be combined with a mix of other personality traits. Put differently, managers can select for high agreeableness among group members who possess varied other personality traits. However, the degree of agreeableness in those group members who are high on other personality traits may vary across individuals. As suggested by [Bell \(2007\)](#), managers can attain this objective by providing group members possessing different personality traits an environment wherein they interact with one another interpersonally and symbiotically to pursue group objectives, as 'the extent to which a team is composed of agreeable team members may be related to the degree to which team members engage in positive interpersonal processes and ultimately team performance' (p. 597).

Findings of our study can be useful for the companies where organizational structure is based on teams. Managers at such organizations may consider the personality of group members as critical for group performance. Along with technical and behavioural competencies, personality profiles of group members should be assessed while forming groups, as for instance, group agreeableness relates positively to group performance (e.g. [Bell, 2007](#)). Organizational teams are not always lucky to have all members high on agreeableness, however. Therefore, organizations should design training programs to develop agreeableness among group members in order to strengthen group cooperation and to better group performance. However, managers should also recognize that high agreeable group members may suffer from competitiveness in group settings ([Matthews et al., 2009](#)), therefore, such corporate trainings should be designed based on an effective training needs analysis.

5.3 Limitations and future research

In this study, groups were formed for four to five months, whereas in real organizational life, workgroups may be formed for different durations. Given the significant role of

duration in resolving relationship conflict, it is yet unclear to what extent these findings generalize to other task forces. Thus, we expect future researchers to develop novel hypotheses on the intervening role of relationship conflict between group members' agreeableness and group performance ratings secured by them. Despite the above limitation, the present study gives a lead to three major areas for future research. First is to explore what stimulates agreeableness, and how the behaviour that is associated with this trait can be dealt with. The second is to study other personality characters that deal with ingratiation, secretiveness, and so on, which can also have rather adverse effects on the group and individual performance and trigger peers' perceptions of threat to retaliation, especially through relationship conflict. The third is to investigate task conflict and process conflict along with the relationship conflict. This may give new insights concerning each type of conflict.

The present study is carried out in Pakistan, a country with a culture that is relatively collectivistic, and thus, citizens focus on group role expectations for group performance (Schultz and Schultz, 2012). Unfortunately, being out of scope of the present study, the interplay of group role expectations with agreeableness on group performance was discounted. However, we believe that if future research explores the above, we may learn how group performance can be managed when group members have low agreeableness. And, if such undertaking is carried out in an organizational setting which may not require much agreeableness (e.g. a creative manager at an advertising agency, or a programmer in a software development house), findings will be more cogent.

6. Conclusion

With the growing importance of organizational teams, group performance has been successful in gaining an adequate place in PA systems of contemporary organizations. However, the challenges that these PA systems have been facing are also showing a steady increase. Among others, inconsistencies among personalities in such groups and arousal of relationship conflicts thereby are upfront. It is therefore necessary that researchers continue to investigate how the quality of interpersonal relationships between group members influence group performance. In this respect, the findings of the present study can be of value for future studies that can further answer the questions about raters' agreeableness and the interplay between ratees' agreeableness and raters' agreeableness affecting group performance ratings. Also, research on the interaction of actual performance of ratees on the relationship between agreeableness and group performance ratings would be timely in the near future.

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