A Member - Virtual Team Fit Theory: Group Conscientiousness Effects on Performance

Yi (Jenny) Zhang , Ph.D.  
California State University,  
Fullerton, CA  
jzhang@fullerton.edu

Ofir Turel, Ph.D.  
California State University  
Fullerton, CA  
oturel@fullerton.edu

Abstract

Virtual teams have become common in many business settings. Thus, it is important to examine factors that affect their performance. Although much research has been done to this end, the influence of virtual team personality composition on team performance has rarely been studied. In this study, we seek to bridge this gap by theoretically developing and empirically testing a model that captures these effects. Data collected from 61 virtual teams suggest that the elevation (median) level of team conscientiousness improves team performance, while higher within-team diversity (standard deviation) in conscientiousness lowers performance. Furthermore, the elevation level of team conscientiousness moderates the negative effect of within-team conscientiousness diversity on team performance. Implications for research and practice are discussed.

1. Introduction

The nature of tasks in modern organizations has become more complex, dynamic, and global. In response, virtual teams that heavily rely on information technologies for team interactions have become prevalent in a broad range of business settings and for a plethora of tasks [1]. These teams have the following characteristics: they include several individuals who may not be collocated and who rely on technology for much of their communication; and in these teams individuals work on interdependent tasks, and share responsibility for outcomes [2].

Given the increased importance and relevance of virtual teams, they have attracted the attention of Information Systems (IS) scholars. One focal outcome of interest in this line of research has been team performance [2-5]. It is crucial to understand what drives the performance of virtual teams in order to increase their vitality and usefulness. To this end, past research have mostly looked at how social, cognitive and emotional process variables, such as trust [6]; and how task process factors, such as conflict [1] or coordination [7], influence team performance. Furthermore, past studies have recognized the importance of input (e.g., team design) variables as predictors of team performance. For example, it has been shown that team size [8], and the cultural diversity of teams influence (albeit, sometimes indirectly) virtual team outcomes [9].

One relatively unexplored design attribute of virtual teams is team composition (i.e., configuration) in terms of the personalities of team members. Understanding the impacts of this team attribute on team performance would allow the development of optimal team staffing strategies, e.g., by allocating optimal combinations of individuals to work in virtual teams. Although several studies highlight the potential importance of this team design consideration for performance [3, 10-12], there has been little empirical research in this area. Our study therefore intends to start bridging this gap. We do so by extending person-traditional team fit theories [13, 14] to virtual settings. The latter type of teams can be challenging to manage due to communication and team process difficulties, which are less salient in face-to-face teams [2-5]. The advance our understanding of virtual teams, we investigate the influence of their personality configurations on team performance. We focus on a single trait of team members, namely their conscientiousness, because this trait is often considered highly influential in team contexts [13]. It can strongly impact key teamwork behaviors (e.g., leadership, sharing, social loafing) [15]. Focusing on virtual team composition in terms of conscientiousness, we examine whether it influences team performance, and the mechanisms through which various aspects of the composition, such as elevation (central tendency) and diversity (variation) influence virtual team performance.

To this end, we develop hypotheses based on traditional person-environment fit theories. The hypotheses are then tested and validated with data collected from 187 team members nested in 61 virtual teams in an academic setting. Implications for virtual team research and practice are then discussed. Ultimately, this study advances a member-virtual team fit theory, which is lacking from current works on virtual teams.
2. Theoretical Background

2.1. Personality Configuration

The five-factor, also known as the “big Five” model (FFM) is a widely accepted personality framework. The FFM includes the following five elemental traits: Extraversion (being sociable, assertive, talkative, and active), Agreeableness (being courteous, flexible, trusting, good-natured, cooperative and tolerant), Conscientiousness (being careful, thorough, responsible, and organized), Emotional Stability (opposite of being anxious, depressed, angry, worried, and secure), and Openness to Experience (being imaginative, curious, original, broad-minded, and intelligence) [16-18].

This framework and others have been used to study the effectiveness of various personality configurations in face-to-face teams. The foci have been on the effects of elevation (i.e., a composite team-level attribute, such as average level of a trait) and diversity (i.e., dispersion of team-level attribute, such as the standard deviation of within-team levels of a trait), on team performance [19]. While these effects have been studied in traditional team settings [20-22], we argue that the trait composition of virtual teams deserves special attention.

On the one hand, virtual teams and traditional teams face different communication challenges. For example, in virtual teams, the lack of face-to-face contact leads to reduced ability to convey non-verbal cues and to lack of immediate response in communications [23, 24]. As such, virtual teams find it more difficult to become cohesive and to perform well [25], often present heightened levels of social loafing [8], and frequently struggle to build trust and relationships among team members [6, 26, 27], which are crucial for team performance and other outcomes [28]. On the other hand, virtual environments present less social pressure, so people feel more free to express their ideas [29]. Thus, personalities that excel in face-to-face settings may fail in virtual settings, and vice versa. For instance, a creative but introvert person may not contribute ideas in face-to-face meetings, but may feel more comfortable to do so in online settings. As such, findings from traditional team research may not generalize well to virtual teams.

2.2. Why conscientiousness?

From a practical standpoint, taking into account all traits may be too cumbersome and overly complicated. Thus, a good initial step, and a proof of concept, would be to focus on a single but influential trait. Specifically, we focus only on team composition in terms of the conscientiousness of its members, and the effect of this composition on virtual team performance. This focus was guided by theory. First, individuals who are conscientious are achievement oriented, competent, orderly and deliberate [16]. In virtual teams it is difficult to track other members’ activities, intentions, plans and current status because face-to-face contact and immediate feedback are lacking [25]. Thus, being self-motivated, task oriented and staying on schedule could be a facilitating condition for functioning well in virtual teams.

Second, being competent and responsible also helps gaining interpersonal trust and consequently, reducing potential disagreements [30]. Not surprisingly, several meta-analysis have demonstrated that conscientiousness is the strongest personality trait associated with performance [31], and that it can positively affect a range of team processes and outcomes [32, 33].

Third, the effect of personality traits on performance often depends on the nature of the task. For example, extraversion appears to influence outcomes when tasks involve considerable interaction with customers [34]. Conscientiousness, however, has been found to be related to performance regardless of task types [31]. That is, the effects of conscientiousness on team outcomes generalize well, and are context independent [35].

2.3. Person-Environment Fit

The life cycle model of virtual teams categorizes virtual team related variables into inputs, socio-emotional processes, task processes, and outputs [4]. In this study, we examine how an input variable, namely team configuration (or composition), affects an output variable, namely team performance. We further build on person-environment fit theories to explain the mechanisms through which this effect takes place [14].

The person-environment (P-E) fit paradigm [36, 37] posits that the congruence between team member characteristics and the team environment can influence individual behavior in team contexts. Ultimately, the fit between these elements is a driver of team outcome variables, such as satisfaction, effectiveness, and performance [14]. This proposition has been supported in traditional team settings [38, 39]. Studies also focused on team member conscientiousness, both at the individual [31] and team [15] levels. At the team level, which is the focus of this study, the findings suggest that composite team-level conscientiousness is a key predictor of team performance [15]. But, findings regarding conscientiousness diversity effects have been mixed.

Two different types of fit are normally discussed in the P-E fit literature. One is based on the notion of
Complementary fit which occurs when the needs of the environment are fulfilled by the unique strengths of individuals [36]. Complementary fit is therefore the match between the demand and supply between the work environment and individual. The other type of fit is supplementary fit. Supplementary fit occurs when an individual and the working environment possess similar or matching characteristics. The focus on studies embracing the supplementary P-E fit perspective has been mostly on value congruence between employees and organizations [40]. In the current study, because the focus is on one trait (conscientiousness), the supplementary fit perspective is taken.

Supplementary fit is manifested through the within-team variation in conscientiousness (diversity). Since conscientiousness reflects one’s value position, reducing conscientiousness variation in a team will increase supplementary fit through goal congruence. Members of such teams will have similar views regarding what they want to achieve and how much effort to put forward. This common background will reduce conflict caused by disagreement regarding effort, commitment, and goals.

3. Research Model

Studies of traditional teams have shown that a higher elevation of conscientiousness in a team leads to better performance [41, 42]. Members of such high elevation teams are easier to trust, because their behaviors are more predictable and are consistent with the higher standards of practice. These team members expect others to take the task seriously, put effort into it, and do their part in a timely manner.

High conscientiousness is especially important in virtual teams, in which it is harder to establish trust and avoid destructive conflict [11]. Highly conscientious team members are a partial remedy to these problems. Conscientiousness can be characterized by two dimensions: dependability and achievement-orientation [43]. Being dependable makes conscientious individuals self-disciplined, organized, and very responsive. These attributes can be crucial to the success of virtual teams, as in such settings, individual team members have less control over what others do. In contrast, if they suspect that others do not prioritize team-related tasks and put forth their best effort, they may reduce their own effort, which will lead to a downward spiral of social loafing [8].

Furthermore, highly conscientious members are achievement-oriented. They will exert effort and perseverance toward goal accomplishment [44, 45]. Through their persistence and hard-work, not only that they contribute to performance directly, but also indirectly through encouraging other members to be more responsive and goal oriented [46]. Past research has also shown a positive relationship between team members’ achievement motivation (an aspect of conscientiousness) and team performance and efficiency [47, 48].

These views are further encapsulated in person-role fit theories [49], according to which a team will be more effective when there is a match between the personality characteristics and the team member roles. Conscientious members are adaptable to any role requirement of the teams [19, 44], and as such, often fit well to any team in any role. Indeed, it has been shown that the overall level of conscientiousness in a team predicts performance across task types [31]. Hence:

**H1:** Within-virtual team elevation of conscientiousness will positively affect team performance.

As demonstrated above, the within-team level of conscientiousness should positively influence performance. This team attribute, however, portrays only one dimension of team configuration. The other facet we examine in this study is the within-team diversity in conscientiousness. Building on the supplementary fit perspective [36], we argue that within team diversity in conscientiousness, i.e., having individuals with different levels of conscientiousness in the same team, is detrimental to team performance.

The supplementary fit perspective posits that people are more comfortable and productive when they are similar to others [50]. In team settings, supplementary fit exists when team members share similar goals and values [13]. Supplementary fit works through several interrelated mechanisms to drive better team performance. First, team members will use the shared goals and values for enhancing interpersonal trust [51]. Trust is an important process factor that helps virtual teams to perform better [52]. When teams have high supplementary fit all members have similar goal orientation and commitment, and they all work diligently towards the team objective. This caters to characteristic-based trust production [53]. Furthermore, sharing similar goals and values with teammates also reduces the unpredictability in communications which is common in virtual teams [11]. Thus, it can lead to higher trust, lower levels of interpersonal conflict, and ultimately to high performance [54-56].

Second, supplementary fit ensures that all group members share norms regarding the effort they need to put into the task. This is important in virtual teams, as team members exert no or little control on the actions of others, and this state of ‘out of sight’ promotes social loafing behaviors [8]. A supplementary fit based shared perspective on effort and timeline norms ensures that people do not engage in social loafing, and that they do not perceive others to engage in social
loafing [57]. The latter is very important, because based on equity theory [58], it guarantees that individuals feel that their efforts are weighted and rewarded properly [59, 60], which can prevent and reduce social loafing behaviors [61].

In contrast, a team with members who hold different levels of conscientiousness should underperform. First, in such teams individuals will have different opinions on how much they want to accomplish and how much effort to put into the task. High conscientious members aspire to achieve high performance since they are achievement-oriented. Low conscientious members, on the other hand, do not value high performance as much as their high conscientiousness peers. This by itself is a basis for within-team conflict, which undermines team performance [62]. Second, when the less conscientious team members exert less effort, the others will likely follow, as it would seem to them unfair that they put more effort, but receive the same reward. [63]. This equity-based downward social-loafing spiral of effort is harmful to team performance [64]. Thus:

**H2:** Within-virtual team diversity of conscientiousness will negatively affect team performance.

While the effects of team conscientiousness elevation (composite team conscientiousness) have been successfully demonstrated in face-to-face team settings [19, 35, 65], findings regarding the effect of conscientiousness diversity on team performance have been mixed. Some studies have shown a significant effect [e.g. 35], and some demonstrate no significant relationships [e.g. 65]. We thus postulate that there may be an interaction effects that can explain such discrepancies.

In line with advances in person-environment fit theory [66], it is plausible that the composite level of within-team conscientiousness moderates the influence of within-team diversity in conscientiousness, such that the negative impact of within-team variation will be mitigated. This moderation effect stems from attitude modification processes that prevail in teams with high within-team differences, in which there is naturally a majority and minority subgroups. According to social identity theory [67] and social influence theories [68, 69] individuals may change their attitudes and consequent behaviors because of informational or normative influences [70].

When a majority of highly conscientious individuals exists, they will aggressively pursue their goal, and are likely to attempt to persuade the less conscientious individuals to put more effort into the task. Based on social identity theory [67], less conscientious individuals will change their cognition and behavior in part to maintain positive social or shared group identity [71]. Thus, it is reasonable to assume that, at least to some extent, the less conscientious team members will adapt, and present actual attitudes and behaviors that are better than these predicted by their basic levels of conscientiousness. Of course, there are also cases where people will not cave to peer-pressure and accordingly, will not change their attitudes. For example, individuals who feel that they are dispensable in the team will exert less effort [72]. In such cases, because highly conscientious members are the majority, they may be more willing to absorb the work of the social loafers to ensure the team outcome. Overall, when a majority of highly conscientious members exists, the negative impact of the diversity (dissimilarity) in conscientiousness will be mitigated.

On the other hand, when a low conscientiousness majority exists, the prevalent expectation would be for low performance, and these members will likely remain quiet and inactive [60]. Because the highly conscientious members are the minority, they would try to prevent to play the “sucker” role, and reduce their effort to reflect the group effort [73, 74]. Thus, in such cases we may observe a stronger than before negative effect of conscientiousness diversity on team performance.

The abovementioned points may be exemplified using these hypothetical teams. One three-member team has the following levels of conscientiousness: 1,7,7 and the other has these levels: 7,1,1. The variation in these teams is the same (standard deviation = 3.46). Nevertheless, as argued above, different behaviors may be expected in such teams. In the first, the majority is highly conscientious, in which case they can influence the less conscientious member to follow their example. In the second, the majority is less conscientious, in which case the downward spiral of social loafing is more likely to occur. Hence:

**H3:** The elevation of within-virtual team conscientiousness will moderate the effect of within-virtual team variability in conscientiousness on team performance, such that when the elevation is high the negative impact of variability will be mitigated.

4. Research Methodology

4.1. Sample and Procedure

Research participants were 290 undergraduate business students in an IS course, who were randomly assigned to mostly three-person virtual teams (90 out of 95 groups) and a few four-person virtual teams (5 out of 95 groups). They were asked to use a private discussion board to discuss a real-world case-study, over a period of four weeks, and then write a report. The case study described the privacy and security practices of Apple’s iPhone. The discussion board
allowed teammates to discuss the case, exchange ideas and files (e.g., MS Word documents with draft analyses), and develop the final submission. Participants were explicitly asked to work only via their assigned virtual collaboration spaces, and not to meet face-to-face or use alternative collaboration tools (e.g., personal email accounts). Following assignment conclusion, students were asked to complete a paper-based survey which captured demographic information and their levels of conscientiousness. Voluntary participation was encouraged with a small course credit.

A total of 246 responses were obtained (85% response rate), but 59 pertained to groups for which we had only one or two responses. Because this study focuses also on diversity measures, only responses from groups with at least 3 responses were retained. Two responses per group may not be enough because the variance may be easily deflated or inflated, and single-response groups do not allow variance assessment. Ultimately, a sample of 187 responses that pertained to groups for which we had at least 3 responses was retained. These responses were nested in 57 three-person teams and 4 four-person teams (a total of 61 teams, net response rate of 65%).

4.2. Operationalization of Constructs

The survey included a well-established conscientiousness measures [75] which used a one to seven Likert scale anchored with “strongly disagree” (1) and “strongly agree” (7). Team performance was measured as the team project grade as assigned by the course instructors, independently from this study.

Measures of conscientiousness were taken at the individual level (i.e., from each team member), and then following the composite-construct typology specified by Chan [76], were aggregated to the team-level. Traditionally researchers tend to use the mean value as an aggregate measure of elevation, e.g., Barrick et al. [34]. However, since most of the groups in our study consist only of three members, using mean for these purposes would be very sensitive to the extreme values. As a result, median is chosen as a central location measure because of its insensitivity to extreme values. The within-team median is further advantageous as the elevation measure because median, unlike mean, is not involved in formulating variance.

Within-team variability was operationalized as a separation construct [77], i.e., one that is extreme when there is a bimodal distribution, and minimal when the distribution is narrow and uni-modal. While measures of diversity as variety or disparity exist as well, separation is most appropriate in our case because it best captures disagreements and opposing attitudes (and beliefs regarding task importance, in our case). Such measures are best operationalized with standard deviation, or mean Euclidean distance [77], out of which, for simplicity reasons, we selected to use the first one. Note that the common practice is to use either variance or standard deviation for capturing diversity as separation [35]. Since the distribution of variance is known to be potentially skewed because of its higher order, standard deviation is used in this study as the measure of within-team trait variability or dissimilarity.

5. Data Analysis & Results

First, the reliability of the conscientiousness measures that were taken at the individual level was assessed. A Cronbach’s alpha of 0.89 indicated that the scale was reliable. Because all our hypotheses pertain to teams (i.e., are at the team-level), the team-level constructs were operationalized using median and standard deviation measures applied to conscientiousness scores from each team. Second, descriptive statistics of and correlations among the team-level constructs were assessed (see Table 1).

Table 1. Descriptive statistics and correlations

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean (Std. Dev.)</th>
<th>Correlations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Performance</td>
<td>84.25 (14.77)</td>
<td>-</td>
</tr>
<tr>
<td>2. Elevation of Conscientiousness</td>
<td>5.52 (0.70)</td>
<td>0.26** -</td>
</tr>
<tr>
<td>3. Variation of Conscientiousness</td>
<td>1.01 (0.56)</td>
<td>-0.24* -0.42** -</td>
</tr>
</tbody>
</table>

* p<0.1, ** p<0.05

Linear regression was used to test all the hypotheses. First, two simple linear regression models were estimated to test the separate main effects of elevation and variability of conscientiousness on team performance (see Table 2).

Table 2. Simple linear regression results

<table>
<thead>
<tr>
<th>Model</th>
<th>Coefficients</th>
<th>Model Estimates</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>β</td>
<td>p-Val</td>
</tr>
<tr>
<td>1. Elevation → Performance</td>
<td>.260**</td>
<td>.067</td>
</tr>
<tr>
<td>2. Variation → Performance</td>
<td>-.236*</td>
<td>.042</td>
</tr>
</tbody>
</table>

* p<0.1, ** p<0.05

The significance of the coefficient of elevation of conscientiousness in model 1 lends support to H1. The negative impact of variability of conscientiousness on
team performance (H2) is marginally supported (p = 0.067) by model 2. That is, virtual teams with members who are highly conscientious perform better than others, and so are virtual teams with members who possess similar degrees of conscientiousness.

To test the interaction effect in H3, hierarchical multiple regression with mean-centered predictor variables [78] was conducted. Centering reduces Variance Inflation Factor (VIF) to acceptable levels of multicollinearity. A general rule is that the VIF should not exceed 10 [79]. The main effects were tested in step-1. Then, the cross-product term was added to test the interaction hypotheses in step-2. See results in Table 3.

Table 3: Hierarchical regression

<table>
<thead>
<tr>
<th>Variables</th>
<th>B (SE B)</th>
<th>p</th>
<th>VIF</th>
<th>R²</th>
<th>ΔR²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1: main effects</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elevation</td>
<td>3.77 (0.67)</td>
<td>.160</td>
<td>1.214</td>
<td>.087*</td>
<td></td>
</tr>
<tr>
<td>Variation</td>
<td>-4.09 (3.66)</td>
<td>.299</td>
<td>1.214</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 2: with interaction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elevation</td>
<td>1.298 (2.761)</td>
<td>.643</td>
<td>1.41</td>
<td>.172**</td>
<td>.005**</td>
</tr>
<tr>
<td>Variation</td>
<td>-2.138 (3.531)</td>
<td>.549</td>
<td>1.276</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elevation*Variation</td>
<td>-2.366 (3.042)**</td>
<td>.018**</td>
<td>1.149</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. N=61 teams. Unstandardized regression coefficients are reported (with standard errors in parentheses)

* p<0.1, ** p<0.05

The interaction effect hypothesis (H3) is supported by the significant product term in the step-2 model. It is also noticeable that R-square has increased dramatically by adding the interaction effect (0.172 compared to 0.087), which is significant at the .05 level. With the interaction effect, 17% of the variance in team performance can be explained by just team level conscientiousness. The VIF for all the centered predictor variables are very low. Thus multicollinearity is unlikely to be a problem. This result is considerably higher than what others managed to explain in other personality- team performance studies. For example Barrick et al [35] managed to explain only 6.8% of the variation in team performance based on the mean level of conscientiousness, and 10.9% of variance in team performance based on the within-team variance in conscientiousness. One possible reason for their lower R² values is the omission of the interaction effect.

In order to explicate the moderation effect, the full regression equation for step-2 model in Table 3 is given below:

\[
\text{Team Performance} = 85.553 + 1.286\text{Elevation} - 2.158\text{Elevation} + 7.366\text{Elevation*Variation} - 85.553 + 1.286\text{Elevation} - (2.158 - 7.366\text{Elevation})\text{Variation}
\]

As can be seen from the above equation, the negative impact of within-team variability in conscientiousness is alleviated by higher levels of elevation of conscientiousness (above 5.52 in this particular case). For example, when the elevation is average (elevation variable=0 in the equation), the effect of the variation on performance is -2.158; and when the elevation level is 4 (elevation variable=-1.52 in the equation), the effect of the variation on performance is -14.48.

To further illustrate the moderation effect of the elevation level of team conscientiousness, we plotted the relationship between within-team variability in conscientiousness and performance at the mean as well as at other levels of elevation (plus 3 to minus 3 standard deviations). Figure 1 also provides the one-tailed significance levels of the lines. As can be seen, the relationship between within-team variation and performance depends on the within-team elevation level of conscientiousness. At higher elevation level, the negative effect of within-team variation on performance is alleviated. At lower elevation levels of conscientiousness, the negative effect of the within-team variation in conscientiousness on performance is amplified. The lower the elevation level, the steeper the slope becomes. These results further confirm the hypothesis about the moderation effect of the elevation level of conscientiousness, and provide more nuanced insights.
6. Discussion

This study’s results show that not only did the elevation and variation of conscientiousness directly influence team performance, but their interaction also had a strong impact on it. Specifically, the elevation level moderates the relationship between within-team conscientiousness diversity and team performance. This helps explain the inconsistent findings in previous studies regarding the effects of personality diversity on team performance.

6.1. Implications for Research

Our findings provide several insights for virtual team research. First, conscientiousness elevation explained 17% of the variance in team performance. It confirms the importance of personality-based staffing strategies [11], and suggests that future research should include this team attribute as an important predictor of performance.

Second, the elevation of conscientiousness of a team was found to be positively related to team performance. This finding is consistent with findings in traditional teams. It confirms that the attributes associated with conscientiousness, such as achievement orientation and dependableness, are also important for the success of virtual teams.

Third, the diversity of conscientiousness within a team was negatively related to team performance. This finding is consistent with the supplementary fit perspective of P-E fit where minimized diversity will lead to better performance. Thus, this theory and its extensions are likely to be relevant also in virtual settings.

Lastly, we found that the negative effect of conscientiousness diversity on performance is moderated by the elevation of conscientiousness. The negative effect was strong and significant when the elevation of conscientiousness was low, and it was mitigated when the elevation of conscientiousness was high. It implies that people may behave differently based on differences in their team environments. When the environment has many conscientious members, less conscientious individuals may change their attitudes and become more cooperative and put in more effort to achieve the general group goal. On the other hand, when the environment includes mostly low conscientiousness members, individuals may lower their expectations and efforts to match others in the group. This is a possible explanation to inconsistencies in past research regarding this effect [e.g., 65]. Yet, it deserves more research.

6.2. Implications for Practice

Traditional team staffing strategies focus mostly on individual personality traits. Our results indicate that the personality composition of the team matters. Hence, managers should assign high conscientious individuals to virtual teams to increase team conscientiousness elevation. They should also assign individuals who are similar in terms of conscientiousness to a team. However, if the majority of team members are high in conscientiousness, adding less conscientious individuals would not significantly hurt the team’s effectiveness. On the other hand, dysfunctional teams with low levels of conscientiousness may be “cured” by adding to them a large enough number of highly conscientious individuals.

6.3. Limitations and Future Research

Several limitations should be acknowledged. First, the results may apply to the specific task type we studied. Other task types should be examined in the future. Second, this study used student teams, which may not generalize well to other virtual teams. Future research may replicate our findings in organizational settings. Third, we focused on one personality trait. Depending on the task and the amount of interaction required, other traits may also be predictive of team
outcomes, and should be considered in future research. Fourth, this study only focused on the direct impact of personality traits on performance which did not include any behavior and process variables that could serve as mediators between personality traits and performance.

7. Reference


[57] J. M. George, "Extrinsic and intrinsic origins of perceived social loafing in organizations,"


