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Conflict Management Training in Video-Based Teams

University of New Haven

Alexis Ward

A THESIS

submitted in partial fulfillment

of the requirements for the degree of

MASTER OF ARTS IN INDUSTRIAL/ORGANIZATIONAL PSYCHOLOGY

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Abstract

In the wake of an emerging economy that demands organizational agility, globalization and an increasing number of independent contractors, corporations have exponentially incorporated virtual teams in their organizations. However, despite their financial and geographical convenience, research has indicated that virtual teams have consistently experienced more conflict and lowered performance and satisfaction levels than that of their traditional counterparts. The present study sought to examine whether conflict management training could help video based virtual teams demonstrate more positive conflict handling techniques and less negative techniques, which would result in higher group process and group outcome satisfaction. This study did not find evidence to support these hypotheses, however at an individual level, participants in the training condition did experience higher group process and group outcome satisfaction.

Keywords: conflict management training, virtual teams

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CHAPTER I

Praised for their financial and geographical convenience, virtual teams have seen a significant increase in usage in organizations in the past decade (Appunn, Grinnell, McAllister, Olson, & Walters, 2014). Out of 1372 respondents on a 2016 Virtual Teams Survey report, 85% reported that they were actively on a virtual team and 48% reported that at least half of their team members were of other cultures. These virtual teams allow employees to have mobility, work-life balance and collaborate with different mindsets. It also allows organizations to leverage global talent, reduce time to market and reduce the costs of housing employees. (RW Culture Wizard, 2016). However despite these positive aspects, virtual teams have historically encountered significant issues with conflict, which has disallowed teams to tap into the benefits of being virtual and has instead frequently led to the classic negative effects of conflict on performance and satisfaction outcomes (Ahmad, Ehsan, & Ebtisam, 2008; Gera, 2013; Griffith, Mannix, & Neale, 2002).

There are over twenty years of research documenting the complex issue of conflict in teams and its effect on important outcomes. Jehn (1997) theorized that there were three types of conflict: 1) Task conflict, which consists of difference's in opinions, ideas and/or perspectives' regarding the task : 2)Relationship conflict, which consists of negative interpersonal interactions that lead to tension, frustration and friction, and 3) process conflict which consists of difference's in views or opinions on *how* the task should be accomplished (Jehn 1997;Shah & Jehn,1993 O'Neil, Allen & Hastings, 2013). This pioneering research by Jehn (1997) found evidence that when in isolation, low levels of task conflict could have a positive effect on performance. This research also found evidence that it was process and relationship conflict that led to delays in important decision-making, creating a snowball effect leading to more conflict and a decrease in important outcomes. However, it is difficult to isolate task conflict, and the tasks that were of

focus of this previous research was of a routine nature that required little debate to succeed, thus any debate was unnecessary and would likely interfere with a team's success (Jehn 1997; O'Neil, Allen & Hastings 2013).

Future studies continued to find evidence that task and relationship conflict do have a strongly positive relationship, and relationship conflict frequently results in lowered performance, group satisfaction, job satisfaction, individual health, occupational health and turnover (De Dreu, Carsten & Beersma, 2005). However, like the Jehn (1997) study, there was evidence that low levels task conflict within teams could lead to an increase in productivity, this time with tasks that were nonroutine and complex. Unlike the highly standardized tasks that were studied before, these complex tasks required collaboration between team members. With complex tasks, teams with conflict could learn to understand different points of view and identify issues that non conflicting teams could not, which led teams with conflict to form creative and more effective solutions (De Dreu, Carston & Beersma, 2005). While relationship conflict was generally accepted as a negative and would lower satisfaction and productivity, task conflict on its own could have positive effects on performance when the task is complex, uncertain and non-routine.

Since the Jehn (1997) article was published, studies were inspired by these initial findings found additional evidence to support these findings (Amason & Sapienza, 1997; DeChurch & Marks, 2001; Peterson & Behfar, 2003; Simons & Peterson, 2000). Management textbooks have consistently reflected this idea as well, continuously citing task conflict as a beneficial team activity and relationship conflict as a detriment (O'Neil, Allen & Hastings, 2013). However, modern research continues to suggest that the issue is much more complicated than previously thought, with more recent studies being unable to replicate the results (De Wit,

Greer, & Jehn 2012; Peeled 1996; O'Neil, Allen & Hastings, 2013). A recent meta-analysis revealed an overall negative relationship between relationship and process conflict with team performance, while task performance essentially had no relationship with performance (De Dreu & Weingart 2013).

These continuously conflicting results have led researchers to examine other variables that may influence the relationship between conflict and team outcomes such as team task (De Dreu & Beersma, 2005). When the intensity of the task was taken into account, De Dreu and colleagues (2003) found that a more intensely complex task only intensified an overall negative effect of conflict on a team's satisfaction and performance (De Dreu, Carsten & Weingart., 2003).

While the relationship between conflict and performance continues to receive mixed evidential support, the current need for organizations to be agile and open to change calls for an additional outcome to be investigated; Innovation, which is defined as the introduction to something new. Innovation has become an important factor in a business' long-term success. According to an Accenture 2015 US Innovation Survey, 84% of executives considered their future success to be very or extremely dependent on innovation (Accenture, 2015). Despite the new evidence continuing to lean towards conflict having an overall negative effect on performance, the theory that conflict can stimulate innovation through idea generation has prevailed (Anderson, De Dreu, & Nijstad, 2004). While it is acknowledged that low levels of task conflict in teams can have a positive effect in terms increased creativity and innovation, it has historically been difficult to isolate task conflict from relationship and process conflict. And so, it has been difficult to extract the beneficial aspects of task conflict on organizational outcomes. Instead, research has continued to demonstrate a negative relationship between

conflict and job satisfaction, performance, and innovation (De Dreu & Beersma 2005, De Dreu, Carsten & Weingart, 2003; O'Neil, Allen & Hastings 2013).

Conflict management in teams. How does conflict management affect the relationship between conflict and performance outcomes? Conflict management involves the implementation of strategies to reduce the negative aspects of conflict and increase the positive aspects of conflict to enhance effectiveness and/or performance (Khun & Poole 2000) An employee's conflict management strategies differ depending on both the situation and their own disposition. In other words, their high or low concern for themselves combined with a high or low concern for others. Concern for themselves is also labeled as resistance to concession making, concern for the task, or assertiveness. (De Dreu & Beersma 2005; Carnevale & Pruitt 1992; De Dreu & Carnevale 2003; De Dreu & Beersma, 2005) Blake and Moulton (1964) were among the first researchers to classify conflict management strategies using a Conflict Management Grid. Other classifications from this initial research evolved and reconstructed the Conflict Management Grid perspective from one's concerns for their own interests and those of all parties involved, including Dual Concern Theory (Pruitt & Rubin, 1989; Thomas, 1976; Khun & Poole, 2000),

Despite small differences between these theories, conflict management strategies are generally accepted as the following; Collaborating or problem solving; which is oriented towards achieving a joint solution among teammates, Forcing, or contending, which is oriented towards pushing one's own agenda over that of their teammates. Yielding, or conceding, which is oriented towards giving in to the wishes of one's teammates, even if it is not in the person's best interests. Avoiding, or withdrawing, which is oriented towards the avoidance of conflict altogether. Lastly, Compromising, which is oriented towards sacrificing certain wants to achieve

a mutual decision (De Dreu & Beersma, 2005). Individuals choose a specific strategy depending on one's combined high or low concern for one's self and the high or low concern for others, which results from their prosocial or selfish motives. Specifically, when the situational motive is prosocial, or beneficial for all those involved, but there is also a high concern for themselves, that person will work towards a good outcome for all but not at the expense of themselves. This leads to albeit slow strategy of engagement in constructive problem solving (e.g Collaboration). When the situational motive is prosocial but there is only moderate concern for one's self, then they are likely to settle quickly for a fifty-fifty decision (e.g Compromise). A low concern for one's self results in yielding to the other party's demands (e.g Yielding). When the situational motive is selfish, or primarily benefits one party, and there is also a high concern for one's self, a person is likely to dominate the conversation and force their agenda on to the other party (e.g Forcing). When the motive is either selfish or prosocial but there is also a low concern for one's self, a person is likely to neglect the situation altogether (e.g Avoiding), (Carnevale & Prutt 1992; De Dreu & Carnevale 2003; De Dreu & Beersma, 2005)

In terms of the scope of the current research, when it comes to team's working on integrative tasks, a need for relational harmony and performance outcomes exist. And so, Collaboration is the most effective conflict management strategy for a team because collaboration prioritizes interpersonal relationships and dialogue that forces each party to create solutions that meet all of their needs. This is followed by a comprising strategy if collaboration is not possible due to time constraints. (Masters & Albright, 2002). Teams that have used these positive conflict management strategies, specifically collectivistic and collaborative, and less negative conflict management strategies experienced higher levels of performance and group satisfaction (Dechurch, Hamilton, & Craig, 2007; Dimas, Isabel & Lourenço, Paulo, 2015;

Dechurch, et al., 2007; Dechurch, et al., 2013;). This effect was demonstrated across levels of task intensity (Dechurch, et al., 2007) and within new or preexisting teams (Behfar et al. 2008), demonstrating a possible universal effect. And so, there is evidence that conflict management has a significant effect on a team's outcomes and may allow teams to establish the productive dialogue that leads to the outcomes that were originally thought to be influenced by the conflict itself.

It is important to note that studies on the relationship between conflict management strategy and team performance have examined face-to-face teams (Behfar et al., 2008)). However, as virtual teams are becoming more common in organizations, it is important to understand how the relationship between conflict management and team outcomes operates in these groups.

Conflict in Virtual Teams

Virtual teams are work arrangements in which members are geographically separated, have limited face-to-face contact and work interdependently over time and distance to create a combined effort and achieve shared goals (Dulebohn & Hoch, 2017). As opposed to traditional teams, virtual teams communicate, share work and complete tasks completely through computer mediated communication, which can be in the form of video or audio conferencing, email and text. This type of communication can be synchronous (occurring at the same time) or asynchronous (occurring at different points in time).

Virtual teams have historically experienced significantly more conflict, lowered performance and less satisfaction than their traditional face-to-face counterparts, due to a lack of verbal and paraverbal cues that traditional teams experience (Baltes et al., 2002). As previously mentioned, task and relationship conflict are strongly correlated and tend to escalate a task-

oriented dialogue into to negative interpersonal relations. Virtual teams also add cultural and geographical differences to this relationship, which has added a new set of concerns.

These problems are exacerbated when teams use text-based methods for 90% of their communication, which fit the dynamic in which that many modern virtual teams operate (Johnson, Bettenhausen & Gibbons, 2009). In comparison with traditional face-to-face teams, virtual teams, experience less creative and innovative group experiences, less cohesion, lower trust, performance and satisfaction. They also exhibit more aggressive, power-oriented dynamics that lead to 'inferior' decision-making (Gera 2013; Warkentin et al., 1997). Past research has indicated that virtual teams rarely outperform traditional teams and can only do so in unrealistic conditions, such as having team members having anonymity and unlimited time to complete their tasks (Baltes et al., 2002).

In addition to showing poor task outcomes, virtual teams also tend to experience lower satisfaction (Baltes et al., 2002). In text-based teams, Denstadli and his colleagues (2012) found that a lack of nonverbal cues normally found in face-to-face communication between group members was a key driver of dissatisfaction. Without these cues, virtual teams are unable build trust and communicate things like tone and underlying meanings in a way that traditional teams can. Furthermore, the nature of asynchronous communication tends to stymie collaboration and leads to frustration and confusion among virtual team members (Denstadli et al., 2012). This then exacerbates the strong relationship between task and relationship conflict, both having a negative impact on team performance and satisfaction (Guenter et al., 2016). However, research has begun to examine other variables such as cultural differences, leadership inadequacies, trust, emotional intelligence, inclusion differences in expectations and, more relevant in terms of this paper, a lack of appropriate conflict management strategies, as possible mediators that may help

organizations construct virtual teams in a productive way (Dulebohn & Hoch 2017; Olson et al 2012; Shin 2005; Montoya-Weiss, Massey, & Song; González-Navarro et al., 2010).

Virtual teams that are high functioning have been successful due to leveraging the aforementioned variables, including focusing on positive conflict management strategies. However, the common denominator of these teams is that they have historically been permanent, and their initial meetings have always been face-to-face. Despite 65% of virtual team-members preferring an initial in-person meeting as well, this finding and sentiment may not apply to the current trends of the economy (AIMS Strategies 2010). Increasingly, teams may change due to new projects and be unable to have an initial in person meetings due to a need for speed and agility. Initial face-to-face meetings would also negate the reduction of costs to the organization.

Software like Skype (2015) and Apple's Facetime (2010) continue to advance in terms of quality and richness. These technologies allow virtual teams to experience nonverbal cues extremely similar to that of face-to-face interaction (Denstadli et al., 2012; Han et al., 2011; Olson et al., 2012). There is some evidence that virtual teams did experience an increase in satisfaction with the introduction of webcams as opposed to computer mediated communication. Olson and his colleagues found that as opposed to text based teams, video based teams experienced an added richness to their team experience, better communication and more intragroup relational strength. but as mentioned before, even video-based teams experience similar levels of task and relationship conflict as text-based teams. This relationship is now being attributed to geographical differences, cultural differences and the context. Specifically, whether teams are working collaboratively or competitively with each other (Gilson et al., 2015; Olson et al., 2012).

Conflict management in Virtual teams. Despite the issues that arise with virtual teams, conflict management has continually been shown to negate the negative effects that conflict has on group outcomes across the spectrum, suggesting that it is one of the most important aspects of a team that influences their success. Researchers have found evidence that the use of collaborative strategies, even in a global environment has had a positive effect on both conflict and performance. There is also evidence that collaboration in virtual teams may induce creativity and innovation, as well as the reduction of cultural barriers (Fedorowicz, Laso-Ballesteros, & Padilla-Melendez 2008; Montoya et al., 2001).

Historically studies have mostly measured a team's natural conflict management strategies as opposed to incorporating a training program that could influence these strategies and inform virtual teams on the most appropriate strategy to achieve their shared goals. According to the RW Culture Wizard report, only 22% received any training regarding increasing productivity in virtual teams. Researchers has only just begun to examine how the integration of training may be able to help virtual teams communicate more effectively and mitigate the negative effects of task and relationship conflict on team outcomes (Gilson et al., 2015). An early study found that virtual team communication training did improve satisfaction with the groups process and its final outcomes. This effect was reportedly attributed to the training allowing team members to clarify their goals and roles, increase trust and feel more comfortable being direct with each other. This team also non significantly outperformed the team that did not receive the training, suggesting that with more power, there may be more positive outcomes stemming from this training (Warkentin & Beranek 1999). Another study's results have indicated that conflict management training does indeed help virtual teams use better strategies to resolve issues, improve satisfaction and performance. This effect was attributed to

the training helping team members to use constructive rather than dysfunctional strategies of handling conflict. The training also fostered open communication which led to goal role and task clarity. (Martinez-Moreno et al., 2015).

The above-discussed studies were focused on text-based virtual teams, which is not the norm for most corporate virtual teams today. As mentioned before, software like Skype and Apple's Facetime continue to advance in terms of quality and richness. These technologies allow virtual teams to experience nonverbal cues extremely similar to that of face-to-face interaction. Coupling this technology with a conflict management training program may help team members negate the use of dysfunctional conflict handling strategies, form a mutual understanding across cultural lines and clarify goals, roles and tasks (Denstadli et al., 2012; Han et al., 2011; Martinez-Moreno et al., 2015; Olson et al., 2012).

The purpose of this study is to examine the effects of self-led conflict management training on webcam-based team conflict management styles and their satisfaction with their respective group process and outcomes. Previous studies have indicated that conflict management training does help text-based virtual teams, and I hope to replicate these results in a video-based team. (Martinez-Moreno et al., 2014; Warkentin et al., 1997). Based on the research literature discussed above, I hypothesize the following:

Hypothesis 1: Groups that receive the conflict management training will use more collaborative/cooperative conflict management techniques than the groups that did not receive the training.

Hypothesis 2: Groups that receive the conflict management training will use fewer negative conflict management techniques than the groups that did not receive the training.

Hypothesis 3: *Groups that receive the conflict management training will report higher levels of process satisfaction than the groups that did not receive the training.*

Hypothesis 4: *Groups that receive the conflict management training will report higher levels of outcome satisfaction than the groups that did not receive the training*

A two-group between-subjects experimental design will be used to examine these hypotheses.

Participants will be randomly assigned to two conditions, training versus no training, but will all complete the same task.

CHAPTER II

Method

Participants

Participants in this study included 48 University of New Haven students. Participants included 29 females and 19 males. Of the 48 participants, there were 6 undeclared majors, 2 psychology majors, 20 criminal justice majors, 6 music majors, 3 theater majors, 5 National Security majors, 2 dental hygiene majors, and 4 marine biology majors. 29 participants were freshman, 16 participants were sophomore, and 3 were juniors. 23 participants were in the video condition, and 25 were in the no video condition. All participants participated in this study as part of a requirement for their PSYCH 1111 course.

Materials

Each student was given a packet which included an informed consent form that contained information about the study procedure the benefits and risks of participating, voluntary participation and the contact information of the researcher. A demographic information section appeared on the front of the packet, a link to the Skype conference call with which the study as

well as a number indicating which condition the student was in. The packet also contained the study materials which included the following: a YouTube link to The Teamworks' Conflict Resolution Techniques Video. This 7:29 minute long video explains the 5 different conflict resolution techniques in accordance with Dual Concern Theory. The extended Dutch Test for Conflict Handling (DUTCH; Van de Vliert 1997), is 5-point Likert scale (from 1 = "Not at all" to 5 = "Almost Always") consisting of 20 items that measured and categorized one's conflict management tendencies into 5 distinctions; Yielding (4 items; $\alpha = .68$) which reflects an orientation towards accepting others will (e.g., "I give in to the wishes of the other party"), Compromising (4 items; $\alpha = .63$) which reflects an intermediate concern for self and an intermediate concern for others (e.g., "I tried to realize a middle-of-the-road solution"), Forcing (4 items; $\alpha = .70$) which reflects concern for only for one's self and low concern for others (e.g., "I pushed my own point of view), Problem Solving (4 items; $\alpha = .69$) which reflects a high concern for one's self and others (e.g., "I examined the problems until I found a solution that really satisfied me and other parties"), and Avoiding (3 items; $\alpha = .67$) which reflects low concern for both one's self and others (e.g., "I avoided confrontation about our differences"). Item 15 was removed from the Avoiding sub scale to increase internal consistency. The Group Process Satisfaction Scale (Warkentin 1997) uses a 7-point Likert scale (1 = "To a very little extent" to 7 = "To a very great extent") to measure the one's satisfaction with their group's process of solving the task, 4 items; $\alpha = .90$, (e.g., "Were team members committed to the goals of the task?"). The Group Outcome Satisfaction Scale (Warkentin 1997) uses a 7-point Likert scale (1 = "Strongly Disagree" to 7 = "Strongly Agree") measured the student's overall satisfaction with the outcome of the task, 4 items; $\alpha = .93$, (e.g., "Overall, I was personally satisfied with the team decision process"). The Lost at Sea task (Pacesetters 2016) is an

intellective survival task in which team members are given a shipwreck scenario and asked to rank 15 items individually, and then collectively in terms of most- to-least importance to their survival, (e.g., “a small transistor radio”). To score this task, participants ranking is subtracted from the official US Coastguard ranking, lower scores indicate a more accurately ranked list

Data Aggregation

To ensure that participants in the groups had shared perceptions of group satisfaction and outcomes, a one-way random effects ANOVA was run to estimate the intra class correlations (ICC) 1 & 2. The ICC 1 demonstrates the percent of variance that can be contributed to group membership and the ICC 2 provides an estimate for the stability of the group mean (Bartko 1976). The ANOVA test for group process revealed that it had an ICC 1 of .42 and an ICC 2 of .68 with a 95% confidence interval from 5.68 to 6.61, $F(14,33) = 3.19, p < .05$. In other words, 42% of the variance in satisfaction with group process is due to a group effect, and the group mean has estimated 68% rate of stability. The ANOVA test for group outcome revealed that it had an ICC 1 of .28 and ICC 2 of .54 with a 95% confidence interval from 5.83 to 6.66, $F(14,33) = 2.213, p < .05$. In other words, 28% of the variance in satisfaction with the group outcome is due to a group effect, and the group mean has estimated 54% rate of stability.

Procedure

The study was a two-group posttest experimental design. Participants were randomly assigned into conditions before participating via a random number generator. Participants met in a central location on-campus. Once all participants arrived, a verbal welcome and instructions were given to read and sign the informed consent form. Participants then completed the small demographic form in the right-hand corner of the packet, and were asked to sign into their Skype group chats to ensure that all participants had a working webcam and microphone. Participants

were then instructed to find a quiet place in which they could not physically see or hear each other. This was done to mimic the conditions of virtual employees interacting with their colleagues. Participants were then to read the instructions given to them. If participants were the video condition, they were asked to watch a short video lasting 7:30 minutes explaining the 5 conflict management strategies and the benefits and cons of each strategy, along with a short manipulation check asking participants to describe the video. All participants were instructed to read and take up to 15 minutes to complete the Lost at Sea Task individually and then together as a group for the remaining 30 minutes. Participants were asked to return to the original location, and then instructed to fill out the three surveys in the back of their packets individually. Participants were verbally debriefed (See Appendix) and given course participation credit as well as a cookie as a thank-you.

CHAPTER III

Results

Means and standard deviations for all measures are shown in Table 1. The Dutch Problem solving scale had the highest mean ($M = 3.90$, $SD = .77$) and the Avoiding scale had the lowest mean ($M = 3.30$, $SD = 1.05$) The DUTCH Problem Solving and Compromising sub-scales were moderately correlated, $r(46) = .59$, $p < .00$, suggesting significant overlap within the items. The Problem-Solving sub-scale was significantly correlated with the Yielding sub-scale, $r(46) = .53$, $p < .00$. The Compromising sub-scale was also significantly correlated with the Yielding sub scale, $r(46) = .57$, $p < .00$, the Forcing sub scale, $r(46) = .43$, $p < .00$. The Avoiding sub-scale was not significantly correlated with any of the sub-scales; Yielding, $r(46) = .07$, $p = .65$; Compromising, $r(46) = .00$, $p = .99$; Forcing, $r(46) = .04$, $p = .04$; Problem Solving, $r(46) = -.03$, $p = .83$.

Hypothesis 1 predicted that participants who watched the conflict management training video would report a higher usage of problem solving and compromising tendencies and a lower usage of yielding, forcing and avoiding tendencies. A one-way multivariate analysis of variance (MANOVA) indicated this hypothesis was not supported, $F(2, 45) = .38, p = .67$; Wilks' $\Lambda = .98$,

Hypothesis 2 predicted that participants who watched the conflict management training video would report a lower usage of yielding, avoiding and forcing conflict management tendencies. A MANOVA test indicated that this hypothesis was not supported, $F(3,44) = .12, p = .95$; Wilks' $\Lambda = .99$.

Hypothesis 3 predicted that groups that were in the video condition would report higher levels of satisfaction with the group's process of solving the task, and its outcome. An independent sample t test revealed no evidence to support this hypothesis at the group level. There was no evidence to suggest there were significant mean differences in satisfaction with group process in the video groups ($M = 6.5, SD = .32$) and the no video groups ($M = 5.9, SD = .99$), $t(7.67) = 1.81, p = .10$. There was also no evidence to suggest that the mean differences in satisfaction with group outcome within the video group ($M = 6.6, SD = .18$), and the no video group ($M = 6.0, SD = .88$), $t(8.62) = 1.37, p = .11$.

However, there was evidence to support this hypothesis on an individual level. An additional t-test showed a significant mean difference in reported satisfaction in group process in those in video condition ($M = 6.48, SD = .46$), and the no video condition ($M = 5.84, SD = 1.3$), $t(30.12) = 2.26, p = .03$. Another t test showed a significant mean difference in reported satisfaction with a group's outcomes in the video group ($M = 6.6, SD = 5.9$) and the nonvideo group ($M = 5.9, SD = 1.32$), $t(28.43) = 2.51, p = .02$.

Table 1. Means and Standard Deviations of Study Measures

Measure	Condition	<i>N</i>	<i>M</i>	<i>SD</i>	<i>Std. Error</i>
DUTCH					
Compromising	Training	23	3.43	.83	.17
	No Training	25	3.52	.67	.13
Problem Solving	Training	23	3.90	.77	.16
	No Training	25	3.81	1.	.15
Forcing	Training	23	2.57	.76	.15
	No Training	23	2.61	.94	.18
Avoiding	Training	23	3.31	1.08	.22
	No Training	25	3.30	1.05	.21
Yielding	Training	23	3.55	.71	.14
	No Training	25	3.67	.60	.12
Compromising	Training	23	3.43	.83	.17
	No Training	25	3.52	.83	.13
Group Process Satisfaction					
	Training	23	6.48	.46	.09
	No Training	25	5.84	1.34	.26
Group Outcome Satisfaction					
	Training	23	6.60	6.60	.38
	No Training	25	5.91	5.91	1.32



Figure 1. The mean for satisfaction with group process is significantly higher for individuals in the training condition than individuals in the no training condition



Figure 2. The mean in satisfaction with group outcomes were significantly higher in individuals in the training condition than those individuals in the no training condition.

Post-hoc analyses

Due to a high number of criminal justice majors, this variable was added as a second independent variable and an ANOVA test was run to identify if this major had any effect on the results. The test indicated that there was not a significant main effect for the criminal justice majors on reported satisfaction with the groups process and its outcome, $F(1,13) = 2.2, p = .14$. There was also no main effect of gender on reported satisfaction with the groups process and its outcome, $F(1,13) = .95, p = .33$.

CHAPTER IV

Discussion

Positive conflict handling interactions are essential to a high functioning collaborative team, especially those that work primarily through virtual channels. The present study hypothesized that groups who received the conflict management training would report higher usage of problem solving and compromising conflict handling strategies, and lower usage of avoiding, yielding and forcing conflict handling strategies. These hypotheses were not supported, which contradicts the significant results of the original study which found that conflict management training did help text-based groups to use positive conflict handling strategies (Martinez-Moreno et al., 2015). I also hypothesized that groups who received the conflict management training would report higher levels satisfaction with the group process and outcome. This hypothesis was not supported

However, there was evidence for higher satisfaction in group process and outcomes for those in the experimental condition at the individual level. It is unclear what caused the mean difference for participants at the individual level. Perhaps, the video made the topic conflict management salient, as well as what positive conflict strategies were. Despite the video not being a comprehensive training, it may have made team members more salient about their communication styles with each other which in turn made the experience more satisfactory.

Despite a higher number of criminal justice majors making up most of the sample size, their major did not have a significant effect on satisfaction with group process and outcome, nor did gender. Furthermore, the significant results at the individual level may have been due to several unaccounted variables. The video may have made conflict management a more salient concept for those in the training group, which may have influenced their overall disposition and affect towards the group.

Limitations

Statistical power limitations. These non-significant results may have been due to several of the study's limitations such as the low power of the study. A lack of participants meant that this study does not have the statistical power to conclude whether or not the hypotheses were supported. However, the significant result of higher levels of group process and outcome satisfaction at an individual level suggests that this study may have found significance for the 3rd and 4th hypotheses had the number of participants been larger.

Training method limitations. The video used as the conflict management training video may have both had adverse effects on the studies outcome. In the original study, researchers developed the training program based off the components of an effective team and participants spent a significant amount of time with the training program (Martinez-Moreno et al., 2014). This video used in this study was explanatory and the manipulation check exemplified that as well. Participants were simply asked what the video was about and this may have not been an effective way to first deliver the conflict management strategies in a meaningful way and then check to ensure that not only did the information transfer, but that they were also able to effectively identify each conflict strategy.

Time limitations. The previous limitation also includes time which is a limitation of its own. In the original study participants had up to 90 minutes to discuss and trade feedback within the original training program. This time may have allowed participants to be more comfortable around their peers. This study did not have the time opportunity to allow for such a training period, hence the short video and activity. The short period of time that the participants were together may have not allowed any surface level trust, as trust and time together are significant factors in successful teams, virtual or traditional. The short period of time, however, was not short enough to create a sense of realistic urgency, which may have negatively impacted the present study's results as well.

Task limitations. During their time together, participants in the original study completed two intellectual tasks, including the Lost at Sea Task included in the present study. Due to the time limitations and a lack of relevance to the participants, The Lost at Sea Task may also be a significant limitation as it may not have provided a meaningful task to the participants. Without a sense of urgency, proper training, trust or task meaning, the participants may have not been invested enough to produce conflict or prepared to utilize the necessary conflict management strategies that would allow the present study's hypothesis to be tested.

Future Research

Future studies should test these hypotheses with working professionals and simulate a task that is meaningful to them and relevant to their field if possible. Differing time length to complete the task should also be considered when investigating how the training effects a virtual teams' conflict handling strategies under stress. Incorporating a more comprehensive training as well as manipulation check to ensure transfer, should also be considered. Future studies may also strive to increase the number of participants as well as account for other possible moderators

such as if the participants knew each other before participating or measuring a participant's original conflict handling tendencies before the training was given. Investigating potential moderators and refining the techniques of this study may help future researchers identify key factors that enable virtual teams to thrive and experience similar satisfaction levels like that of their traditional counter parts.

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APPENDIX A

Recruiting Script for Potential Participants

Verbal Recruiting Script Example:

Hello, my name is Alexis Ward and I am an Industrial/Organizational Psychology Masters Student. I am seeking volunteers to participate in a study examining performance and satisfaction in webcam-based teams. If you choose to participate, we will ask you to complete a task with your webcam-based group members as well complete two surveys about your experience. The entire study will take about an hour. By participating in this study, you will be eligible for 1 SONA credits if applicable. Regardless, you will receive cookies as a thank you for your participation. This study does require access to a webcam, which can be achieved through a smartphone if a laptop camera is not available.

SONA recruiting Script Example:

How well do you work in virtual teams? Do you have access to a Webcam?

This study is seeking participants to examine performance and satisfaction in virtual teams. The time commitment for this experiment is approximately 1 hour. You will be asked to complete a task by interacting with your group via webcam, which can be accessed through a laptop or a smartphone if a laptop webcam is not available. You will also be asked about your experiences in a short series of surveys.

Benefits of Participation

Participants will be able explore how well they work in a webcam-based setting, as well receive 1 SONA credit. ALL participants will receive cookies as a thank you for their participation.

Risk of Participation

There are no potential risks in this experiment. Participants must be 18 years of age and have access to a web camera, either via laptop or smartphone, to participate.

APPENDIX B

Informed Consent Form (Video Group)

Participant# ____ Group # ____

Project Title: Performance & Satisfaction in Virtual Teams
 Principle Investigators: Alexis Ward, MAIOP Graduate Student
 Dr. Amy Nicole Baker, Associate Professor

You have been asked to participate in a study being conducted under the supervision of Alexis Ward, a Master of Arts student in the Industrial/Organizational Psychology program. This document is an individual's consent form for participation in this research project.

The purpose of this study to examine performance and satisfaction in virtual teams. The following will provide you with information about the experiment that will help you in deciding whether you wish to participate. If you agree to participate, please be aware that you are free to withdraw at any point throughout the duration of the experiment without any penalty.

If you choose to participate, you will be asked to watch a short video about conflict management training and complete a task with a small group of 3 to 4 people that you will interact with via webcam. This will take about 45 minutes. Afterwards you will return to the lab and use the remaining 15 minutes to complete a short list of surveys about your experiences. The entire study will take approximately one hour. If you have any objections, please inform the experimenter and the study will end now. All information you provide will remain confidential and will not be associated with your name. If for any reason during this study you do not feel comfortable, you may leave the laboratory and your information will be discarded. When this study is complete you will be provided with the results of the experiment if you request them, and you will be free to ask any questions.

There are no known risks to this experiment. For participation in this study, you will gain insight into how you work with others in virtual setting, receive 1 SONA credits if applicable, and receive cookies as a small token for your participation,

By signing this form, you acknowledge that you understand the following:

- Your participation in this study is entirely voluntary.
- You have the right to withdraw consent and discontinue participation at any time, without any penalty.
- You have been informed in advance as to what tasks would be required and what procedure would be followed.
- Risks associated with participation are minimal.
- To participate, you must be at least 18 years of age or older.
- Your data will be kept strictly confidential.

If you are interested in getting more information about your rights as a participant in this study, you may direct your inquiries to the chair of the IRB at irb@newhaven.edu.

 Signature of Participant

 Date

APPENDIX C

Informed Consent Form (No Video Group)

Participant# _____ Group # _____

Project Title: Performance & Satisfaction in Virtual Teams
 Principle Investigators: Alexis Ward, MAIOP Graduate Student
 Dr. Amy Nicole Baker, Associate Professor

You have been asked to participate in a study being conducted under the supervision of Alexis Ward, a Master of Arts student in the Industrial/Organizational Psychology program. This document is an individual's consent form for participation in this research project.

The purpose of this study to examine performance and satisfaction in virtual teams. The following will provide you with information about the experiment that will help you in deciding whether or not you wish to participate. If you agree to participate, please be aware that you are free to withdraw at any point throughout the duration of the experiment without any penalty.

If you choose to participate, you will be asked to complete a task with a small group of 3 to 4 people that you will interact with via webcam. This will take about 45 minutes. Afterwards, you will return to the lab and use the remaining 15 minutes to complete a short list of surveys about your experiences. This study will take one hour to complete. If you have any objections, please inform the experimenter and the study will end now. All information you provide will remain confidential and will not be associated with your name. If for any reason during this study you do not feel comfortable, you may leave the laboratory and your information will be discarded. When this study is complete you will be provided with the results of the experiment if you request them, and you will be free to ask any questions.

There are no known risks to this experiment. For participation in this study, you will gain insight into how you work with others in virtual setting, receive 1 SONA credits if applicable. And receive cookies as a small token for your participation.

By signing this form, you acknowledge that you understand the following:

- Your participation in this study is entirely voluntary.
- You have the right to withdraw consent and discontinue participation at any time, without any penalty.
- You have been informed in advance as to what tasks would be required and what procedure would be followed.
- Risks associated with participation are minimal.
- To participate, you must be at least 18 years of age or older.
- Your data will be kept strictly confidential.

If you are interested in getting more information about your rights as a participant in this study, you may direct your inquiries to the chair of the IRB at irb@newhaven.edu.

Signature of Participant

Date

APPENDIX D**WELCOME SCRIPT**

Hello and thank you for participating in this study. First, here is a consent form that explains the experiment and your rights as a participant, please read through it. Copies are available if wanted. You will need access to a webcam, via laptop or a smartphone, and a skype account to participate in this study. If you do not have skype already downloaded, please use the link provided in the typed slip given you to download skype and start an account.

(SLIP: <https://www.skype.com/en/get-skype/>)

Please provide your skype email address along with the participant & group # from the consent form to me before we continue with the instructions.

At this time, I want each member of the group to go to a different location on campus. This may be a dorm, student lounge, café etc., in which you are not in earshot or in view of your fellow participants. If you do not have a space available to you, we will provide one. Once you have found your quiet space, please read through and complete the instructions carefully. You will have 45 minutes to complete the task, afterwards you will return to this classroom and use the remaining 15 minutes or so to complete the second half of the experiment. If you have any questions throughout this study, please call or text me at 201-449-6798. This number is also provided in the typed instructions given to you.

Thank you

.....

AFTER GROUP MEMBERS HAVE RETURNED TO LAB/CLASSROOM:

Thank you for participating in the first half of this study. Please use the remaining 15 minutes of this study to complete these two surveys about your experiences. After you've returned the packet to me you will be debriefed and can collect your cookie and are free to leave. If you are participating via SONA, you will receive 1 research credits. Thank you!

APPENDIX E

Debriefing Script

Thank you very much for participating in this study. Now that the experiment is complete, I can explain more about this study in detail.

The purpose of this study was to examine how conflict management training might affect a virtual teams' conflict management strategies while solving a task, as well as their satisfaction with the group's process for solving the task as well its final outcomes. Specifically, we hypothesized that those who watched the video would report more use of positive strategies and less negative strategies than those who did not watch the video. We also hypothesized that those who watched the video would report higher levels of satisfaction with the group process and final outcomes. You were randomly assigned into the (video/no video) group. Here is a copy of the correct order of the items in the task as listed by the US Navy.

We hope this research will help us discern whether self-led training videos like the one featured in this study can help virtual teams communicate and manage conflict better. Now that you know the full extent of the study, we ask that you not discuss this experiment with others.

Do you have any questions?

You will receive 1 SONA credits if applicable, otherwise everyone is welcome to take a cookie as a token of our appreciation for your participation. If you have any further questions, or you would like to contact me, please email me at award1@unh.newhaven.edu.

APPENDIX F

PARTICIPANT INSTRUCTIONS

Thank you for participating in this study.

ALL: Please find a quiet space in which you are not able to view or hear your fellow participants and are able to access a webcam, either via laptop or smartphone. Then, download, open skype and access the conference call with the code given to you by the experimenter. Once all members of the group have accessed the conference call, please alert the researcher via text and please flip to the next page, read the instructions and begin the task.

VIDEO GROUP ONLY: You will now be asked to watch a short training video. Please type in the link provided below to find it. The video should look like the screen below. Please watch the video in its entirety and complete the open-ended question below. Then, flip to the next page



LINK: <https://www.youtube.com/watch?v=NJH0XV9jGIE>

Please describe the content of this video in the space provided below. Then flip to the next page.

LOST IN SEA SURVIVAL TASK INSTRUCTIONS:

You have chartered a yacht with three friends, for the holiday trip of a lifetime across the Atlantic Ocean. Because none of you have any previous sailing experience, you have hired an experienced skipper and two-person crew. Unfortunately, in mid Atlantic a fierce fire breaks out in the ship's galley and the skipper and crew have been lost whilst trying to fight the blaze. Much of the yacht is destroyed and is slowly sinking. Your location is unclear because vital navigational and radio equipment have been damaged in the fire. Your best estimate is that you are many hundreds of miles from the nearest landfall. You and your friends have managed to save 15 items, undamaged and intact after the fire. In addition, you have salvaged a four man rubber life craft and a box of matches. Your task is to rank the 15 items in terms of their importance for you, as you wait to be rescued. Place the number 1 by the most important item, the number 2 by the second most important and so forth until you have ranked all 15 items. You will have 45 minutes to complete this activity

FIRST: Use approximately 15 minutes to individually rank the items.

SECOND: Once every team member is done, use the remaining time to discuss and reach a group consensus on the rank order of the items. **After your team has finished or when the 45 minutes is up, please return to the classroom to complete the second half of the experiment. YOU MUST RETURN TO THE CLASSROOM AT THE END OF THE TASK TO RECEIVE CREDIT.**

LOST IN SEA TASK

ITEMS	Your individual Ranking	Your Team Ranking
A sextant		
A shaving mirror		
A quantity of mosquito netting		
A 25 liter container of water		
A case of army rations		
Maps of the Atlantic Ocean		
A floating seat cushion		
A 10 liter can of oil mixture		
A small transistor radio		
20 square feet of opaque plastic sheeting		
A can of shark repellent		
One bottle of 160 proof rum		
15 feet nylon rope		
2 boxes of chocolate bars		
An ocean fishing kit & pole		

APPENDIX G

Dutch Conflict Handling Test (2001) PARTICIPANT INSTRUCTIONS: Based on how you interacted with your virtual team, read each of the statements below and circle the response that you believe best reflects your position during the task.

When working with my group, I did the following:		Not at all	Seldom	Sometimes	Often	Almost Always
1.	I gave in to the wishes of the other party.	1	2	3	4	5
2.	I tried to realize a middle-of-the-road solution.	1	2	3	4	5
3.	I pushed my own point of view	1	2	3	4	5
4.	I examined the problems until I found a solution that really satisfied me and the other parties.	1	2	3	4	5
5.	I avoided confrontation about our differences.	1	2	3	4	5
6.	I agreed with the other party	1	2	3	4	5
7.	I emphasized that we have to find a compromise solution.	1	2	3	4	5
8.	I searched for gains.	1	2	3	4	5
9.	I stood for my own and other's goals and interests	1	2	3	4	5
10.	I avoided differences of opinion as much as possible	1	2	3	4	5
11.	I tried to accommodate the other party	1	2	3	4	5
12.	I insisted that we both give in a little.	1	2	3	4	5
13.	I fought for a good outcome for myself.	1	2	3	4	5
14.	I examined ideas from both sides to find a mutually optimal solution	1	2	3	4	5
15.	I tried to make differences seem less severe.	1	2	3	4	5
16.	I adapted to the parties' goals and interests	1	2	3	4	5
17.	I strove whenever possible toward a 50-50 compromise	1	2	3	4	5
18.	I did everything to win	1	2	3	4	5
19.	I worked out a solution that serves my own and the other's interests as well as possible.	1	2	3	4	5
20.	I tried to avoid a confrontation with the others.	1	2	3	4	5

APPENDIX H

Group Process & Outcome Satisfaction Scale

Group Processes Section:

PARTICIPANT INSTRUCTIONS: Please read the following questions and circle the number which most accurately describes your answer.

1. Were team members committed to the goals of the task?

To a very little						To a very great
Extent			To some extent			extent
1	2	3	4	5	6	7

2. To what extent was trust exhibited within the team?

To a very little						To a very great
Extent			To some extent			extent
1	2	3	4	5	6	7

3. Did members respect individual contributions?

To a very little						To a very great
Extent			To some extent			extent
1	2	3	4	5	6	7

4. Were team members open in expressing their ideas and feelings?

To a very little						To a very great
Extent			To some extent			extent
1	2	3	4	5	6	7

Satisfaction with Outcomes Section:

INSTRUCTIONS: Please read the following statements carefully and circle the number which most accurately describes the extent to which you agree or disagree with the statement.

1. Overall, I was personally satisfied with the team decision process.

Strongly Disagree			Undecided			Strongly Agree
1	2	3	4	5	6	7

2. This team produced effective results during this task.

Strongly Disagree			Undecided			Strongly Agree
1	2	3	4	5	6	7

3. This team produced effective and valuable results during this task.

Strongly Disagree			Undecided			Strongly Agree
1	2	3	4	5	6	7

4. I agree with the final decision of the team.

Strongly Disagree			Undecided			Strongly Agree
1	2	3	4	5	6	7

5. Overall the quality of this meeting team's interaction was high.

Strongly Disagree			Undecided			Strongly Agree
1	2	3	4	5	6	7

APPENDIX I

DUTCH Questionnaire Key

Yielding (Accommodating)

- (1) I give in to the wishes of the other party.
- (6) I concur with the other party.
- (11) I try to accommodate the other party.
- (16) I adapt to the other parties' goals and interests

Compromising

- (2) I try to realize a middle-of-the-road solution.
- (7) I emphasize that we have to find a compromise solution.
- (12) I insist we both give in a little.
- (17) I strive whenever possible towards a fifty-fifty compromise.

Forcing (Competing)

- (3) I push my own point of view.
- (8) I search for gains.
- (13) I fight for a good outcome for myself.
- (18) I do everything to win

Problem Solving (Collaborating)

- (4) I examine issues until I found that really satisfied me and the other party.
- (9) I stand for my own and other's goals and interests.
- (14) I examine ideas from both sides to find a mutually optimal solution
- (19) I work out a solution that serves my own as well as others interests as good as possible

Avoiding

- (5) I avoid a confrontation about our differences.
- (10) I avoid differences of opinion as much as possible
- (15) I try to make differences seem less severe.
- (20) I try to avoid a confrontation with the others.