

From the Classroom to the Boardroom: Team Development Interventions by Faculty in Student Teams

Dewaynna Horn, Jennifer L. Flanagan, and Margaret A. Young

Texas Woman's University, USA

Abstract. Teamwork is a part of not only the classroom but also the workplace, and team development and team learning are key components to team success. A student's meaningful team experience in the classroom informs their ability to later succeed in team environments in a professional setting. This study examines student perceptions of faculty efforts to develop teams and how they impact team cohesion, team interdependence, team conflict, and ultimately team satisfaction. The researchers also analyzed psychological safety as a moderator of team development and offer several tips for instructors to facilitate student teamwork in classrooms.

Keywords: business, education, groups, projects, teams.

1. Introduction

“Great things in business are never done by one person. They're done by a team of people.” – Steve Jobs

Teamwork is integral and unavoidable in business. Indeed, especially in small business, and with employees wearing so many hats and serving in so many capacities, it is virtually impossible to avoid working in a cross-functional team at some point. Any employer bringing new MBA graduates into their workplace has certain expectations of their employee's ability to interact with others, their effectiveness in working through problems, and their communication skills.

Employer expectations of employee performance and their actual skills at the outset often differ. Employers expect that graduates of business schools will have the necessary teamwork skills to succeed in the workforce (Ruiz, Bianey, & Adams 2004; Bisbey & Salas 2019). Lejk and Wyvill (1996) note, “Teamwork skills are the second most important attribute looked for in prospective employees” (p. 268). A survey revealed 96 percent of employers believe that improving a student's ability to work effectively in a team should be an important goal for academicians (Hart Research Associates 2014). As such, “The use of

student teams for class projects is now a common pedagogical practice in many business schools” (Chen & Lou 2004, p. 275).

Loughry *et al.* (2014) indicated that many instructors are integrating team activities into their classes and noted that 59.1% of instructors at four-year institutions reported they use small groups in all or most of their courses (The Chronicle of Higher Education 2009). It is important to look at team development processes and team learning. Team-based learning strategies integrated into the classroom by instructors help to develop teamwork skills (Hansen 2006; Lohmann, Pratt, Benckendorff, Strickland, Reynolds, & Whitelaw 2019) and ensure quality teamwork experiences, better team performance, and learning among individuals via teams.

The Association to Advance Collegiate Schools of Business (AACSB) is a major accrediting institution for business colleges and schools, and has stressed the importance of teamwork (AACSB 2013 Eligibility Procedures). Colleges must document the places in the curriculum where students are participating in team experiences; show that team experiences exist across program types and delivery modes, including on-line courses; document that peer learning opportunities are of high quality and impact student learning; and finally, demonstrate that students in all modes of delivery (face-to-face, online, hybrid, part-time, and full-time) have equivalent opportunities to learn team skills (Loughry, Ohland, & Woehr 2014; Lohmann 2019).

Despite workforce trends, employers’ expectations, and the fact that student teams are widely used in graduate and undergraduate programs of study in business schools, a gap exists between the mastery of teamwork skills expected by employers, and those demonstrated by graduates (Adams 2003). Employers highlight teamwork as a key skill deficiency among college graduates entering the workforce. In a survey of employers and students, only 37% of employers believed colleges prepared recent graduates to work in teams and 83% of employers thought colleges should place more emphasis on developing the teamwork and collaboration skills of students (Hart Research Associates 2014).

The teamwork skill deficiency may be attributed to poor preparation and guidance from faculty (Hansen 2006). Insufficient team training is often the cause of teams that perform poorly (Zemke 1993). Rotfeld (1998) stated that “Group projects are many but few faculty assigning them stress improving student speaking, writing, or group interactions. The classes do not teach these things except by contagion and therein lies the real problem” (p. 6). Faculty in business schools may lack the necessary skills and knowledge to train students to work in teams. Instead many professors simply place students into teams to complete projects in order to create the mere appearance of teamwork. Barker and Franzak (1997) stated, “placing students into groups for class projects is not the same as developing teams, even when the term ‘team’ is applied” (p. 304). Lohmann *et al.* (2019) found that incorporating team-based learning (TBL) in the business curriculum and focusing on team-centered activities and support

initiatives, even for online students, contributed to learner satisfaction and team success. Yet, many instructors assign students to work in teams by default, not by design, for the purpose of meeting the expectations of their programs, accrediting organizations, workforce recruiters and employers. The lack of a specific design is often due to a lack of know-how and experience in developing teams. Similarly, in practice, poor performing teams may often be attributed to lack of leadership and management.

The purpose of this study is to determine the effectiveness of our efforts to prepare, train, manage, and facilitate effective student teamwork by exploring contextual aspects of student teams. We evaluate student perceptions of actual practices of faculty in developing and administering student teams (team development initiatives, or TDI), student perceptions of psychological safety (interpersonal context), and the effects of these contextual aspects on team cohesion, team interdependence, team conflict, and individual satisfaction. Drawing on team learning theory we analyze the important contextual variables and processes on which professors might focus in developing and administering effective student teams. This study also provides notes and resources for instructors to use to facilitate successful teamwork.

2. Literature Review

Team Learning Theory

Team learning involves continual development that increases knowledge about working in teams and cultivates knowledge-sharing and positive interactions among team members to enable team effectiveness (Edmondson, Dillon & Roloff 2007; Van der Haar, Koeslag-Kreunen & Segers 2017). Team-learning research focuses on three different perspectives: overcoming learning curves for the purpose of outcome improvement; increasing shared knowledge to improve task mastery; and examining learning processes within teams or group processes (Edmondson *et al.* 2007). This study examines how contextual factors affect group learning processes in teams. We analyze the effect that teamwork has on individual satisfaction and propose an input-process-output model in which group interaction processes mediate the relationship between group inputs and outputs. Essentially, contextual aspects such as structure or managerial support affect team behavior, such as team cohesion, leading to an increase or decrease in team performance (Harvey, LeBlanc & Cronin 2019).

Teams in Graduate Business Education

A team, by definition, is a social system involving multiple individuals, which is embedded in a specific context, such as an organization or classroom, whose members perceive themselves as such and are perceived by others as members, and who create synergies through coordination to accomplish a common task

using complimentary skills for a period of time (Sagner 2013). Teams should be distinguished from groups. Although the terms are used interchangeably, teams and groups are not the same (Adams & Laksumanage 2003).

Groups are informally organized to enforce established norms within the group, whereas teams are formally organized to accomplish a specific task. The focus of a group may or may not be consistent with the mission of the organization, whereas the objectives of a team should be consistent with a specific mission or missions. There is greater synergy and accountability within teams as opposed to groups, and teams should be comprised of complimentary skill sets, as opposed to similar skill sets. Team projects enhance individual members' knowledge, skills, and abilities to work in teams, which is necessary to satisfy the demands of employers, working towards a common goal set by the employer (Bisbey & Salas 2019). The most effective teamwork leads to team performance that would be greater than individual performance (Bisbey & Salas 2019).

Teams are effective when team members are properly taught how teams work, how to communicate, and the need for distinct and specific roles within teams, engaging in a process that enhances the team and output (Kerns 2019). When students are taught how to collaborate with others, they gain experience working on complex problems (Goretsky 1984; Henke 1985; 2019; Kerns 2019; Lohmann *et al.* 2019), they have the opportunity to emulate the real-world work environment (Williams, Beard, & Rymer 1991), and they improve their communication skills (Meyer 1994; Williams, Beard, & Rymer 1991). Moreover, students acquire better interpersonal, social, and team skills (Johnson, Johnson, & Smith 1998; Joyce 1999; Kunz 1994; McCorkle *et al.* 1999; Williams, Beard, & Rymer 1991), become active and advanced learners (Freeman 1996; Johnson & Johnson 1984-85; Williams, Beard, & Rymer 1991), develop persistence through adversity (Johnson, Johnson, & Smith 1998), increase their knowledge and critical thinking skills (Boyer, Weiner, & Diamond 1985; Nichols & Hall 1995), are more motivated (Denton 1994; Dommeyer 1986; Johnson, Johnson, & Smith 1998), have positive interdependence (Joyce 1999), acquire a greater sense of achievement (Freeman 1996; Johnson & Johnson 1984-85; Johnson, Johnson, & Smith 1998), possess a sense of meaningfulness (Robbins 1994), and develop improved multicultural relations, which are all increasingly important aspects needed among employers in the diverse workplace of today (McCain 1996; Slavin, 1990).

Working in a team is not always the best method to meet the goals of a project. Since the most effective team performance needs to be more productive than individual performance (Bisbey & Salas 2019), collaborations that lead to less productivity are not ideal and do not warrant teamwork situations (Robbins 2017). Much of the downside of teamwork comes from the negative perceptions of teamwork, often leading to resistance to working with other team members. This is true for students and employees alike. Some of these include free-riding or social loafing (Ashraf 2004; Joyce 1999; Latane, Williams, & Harkins 1979; McCorkle *et al.* 1999; Mello 1993; Strong & Anderson 1990; Williams, Beard, &

Rymer 1991), inadequate rewards or poor grading schemes (Sheppard, 1995), behavioral or attitude problems (Pfaff & Huddleston 2003; Sutton 1995), inferior skills (Sutton 1995), lack of leadership (Forman & Katsky 1981), lack of specialization of skills (Batra, Walvoord, & Krishman 1997), transaction cost issues (Yamane 1996), and stifling of individual innovation or creativity (Batra, Walvoord, & Krishman 1997). In addition, teams in classrooms are often a collection of individuals assembled to divide the assigned task into smaller pieces to complete independently (Loughry, Ohland, & Woehr 2014; Robbins 2017). As a result of these problems, students do not develop the necessary skills for working in teams.

Still, the number of benefits outweigh the number of problems associated with the concept of working in teams. This, coupled with employers' need for skilled team members, points to the important role that faculty have in improving team environments and interactions.

Team Input - Team Development Interventions (TDI)

Developing effective teams in an MBA classroom calls for team development interventions (TDI) or "actions taken to alter the performance trajectories of organizational teams" (Shuffler, Diazgranados, Maynard & Salas 2018). Faculty, in assigning student teams to work on situational problems, must intentionally design measures to facilitate effective team functioning. Educators in all disciplines struggle to incorporate teamwork and successful learning through teams (Lohmann *et al.* 2019) and all too often, faculty members assign students to teams without preparing them to function effectively in teams (Tombaugh & Mayfield 2014). This is sometimes due to the fact that instructors are not equipped with the knowledge, or choose not to use that knowledge, to prepare students to work in teams, in addition to changes in learning formats and their impact on team-based learning (Lohmann *et al.* 2019). Instructors need more training and resources about effective pedagogical designs for teamwork. Burbach, Matkin, Gambrell, and Harding (2010) discussed the importance of preparing faculty in the effective use of student teams in classrooms. A sample of instructors participated in a year-long program of instruction in the effective use of teams and teamwork concepts. The results of their activities and efforts, as demonstrated through results of pre-test scores and post-test scores of 359 students, indicated significant improvement in students' teamwork knowledge, skills, and abilities.

Faculty can incorporate team-based learning methods to encourage student interaction, brainstorming, idea collaboration, and team success (Lohmann *et al.* 2019). Faculty should explain the importance or relevance of teamwork; dedicate time to teaching teamwork skills prior to assigning teamwork; conduct team building exercises; pay attention to prescribed methods of team formation; assign a reasonable workload and clear assignment goals and instructions; require teams to have specific or assigned roles through the use of a team charter; allocate some

class time for team meetings; allow the opportunity for multiple feedback points to monitor typical team problems; require individuals to keep records of their personal contributions; and use detailed peer evaluations as part of grading (Hansen 2006).

Team Processes

Team Cohesion. Team cohesion is “the total field of forces which act on members to remain in the group. These forces may depend on the attractiveness or unattractiveness of either the prestige of the group, members of the group, or the activities in which the group engages” (Festinger 1950, p. 274). Leader interventions foster team cohesion. Takleab and colleagues (2009) found that conflict management strategies moderated by the relationships between team cohesion and team conflict produced team success. The development of more realistic processes, expectations, and timelines, as well as clarifying ambiguity, led to more successful productives and cohesive teams (Johnson & Avolio 2018).

Team development initiatives increase team effectiveness, including team cohesion (Lacerenza, Marlow, Tannenbaum & Salas 2018). Research has revealed that leadership behaviors that facilitate acceptance and acknowledgement of group goals, foster team functioning, and communicate high performance expectations significantly predicted team cohesion (Callow, Smith, Hardy, Arthur & Hardy 2009). A study of high school and college baseball and softball teams indicated significant relationships between perceived leader behaviors (training and instruction, democratic behavior, social support, and positive feedback) and team cohesion (Gardner, Shields, Bredemeier & Bostrom 1996). A study of students in several Australian universities revealed that effective team interventions by educators positively affect team cohesion and facilitates better teamwork skills among students (Croy & Eva 2018). Team learning theory posits that contextual aspects of teams such as structure or managerial support affect team cohesion, leading to an increase or decrease in team performance (Harvey *et al.* 2019). We predict, according to team learning theory and based on past research that faculty interventions as well as team interventions aimed at developing teams will be positively related to team cohesion.

Hypothesis 1: TDI is positively related to team cohesion.

Team Interdependence. Teamwork requires groups of individuals to pool their contributions that derive from individual and collective efforts. Team interdependence considers the ways in which the individuals on a team work alone and with members of the team to achieve the goals of the team (Van der Vegt, Emans, Van de Vliert 2001).

Team identification, (whether team members identify with and as a team), is impacted by goal/task interdependence (Johnson & Avolio 2018). In fact, when

team members are significantly different than other team members, team interdependence helps to mitigate these differences (Van der Vegt, Van de Vliert, & Oosterhof 2003; Johnson & Avolio 2018).

Antecedents of team interdependence include consideration to task inputs, such as clearly defined goals and instructions; the distribution of members' knowledge, skills, and abilities; a sufficient level of resources and technology to accomplish the goals, and an understanding of the rewards for achieving the goal (Wageman 1995). In addition, according to team learning theory, team development interventions affect team behavior (Harvey *et al.* 2019). Therefore, we predict that team development interventions from instructors will be positively related to team interdependence.

Hypothesis 2: TDI is positively related to team interdependence.

Team Conflict. Team conflict is a consciousness or perception of clashes, inconsistencies, disagreements, or incompatibilities within a team, characterized by relationship conflict, task conflict, and process conflict (Jehn & Mannix 2001). Past research has examined causes and solutions to conflict in teams and indicated the effectiveness of instructor interventions. Some interventions included attention to methods of assigning students to groups (self-selection or assignment by the instructor); providing clear instructions and learning objectives; giving opportunities for students to get organized as a team, getting acquainted with team members, and providing an overview to students about how to work as a team; using group contracts and team charters; and scheduling occasions for team members to discuss their progress (Borg, Kembro, Notender, Petersson & Ohlsson 2011). Overcoming team conflict was shown to be integral to the development and success of the team (Tackleab, Quigley, & Tesluk 2009; Johnson & Avolio 2018). Based on team learning theory, TDI could be considered as a contextual aspect of teams that affects team behavior, such as team conflict, leading to an increase or decrease in team performance. We predict, according to team learning theory and based on previous research, a negative relationship between TDI and team conflict.

Hypothesis 3: TDI is negatively related to team conflict.

Team Output

Individual Satisfaction. Teamwork assignments should increase student learning in the area of teamwork, it should increase the desire of students to work in teams in the future, and it should have a positive effect on students' knowledge, skills and abilities to work in teams (Hoegl & Gemuenden 2001). In other words, working in teams should positively affect not only the presentation and sequencing of class content, but also the tasks assigned, which positively impact student learning and ultimately increase student satisfaction. Satisfaction with

working in teams leads to increased motivation for participating in future team projects. Also, collaborating with others provides the opportunity for learning new skills for personal development and future teamwork.

Positive team interactions increase students' individual satisfaction with working in teams, while negative interactions reduce it. Results of a study of project managers in Malaysia revealed that strong team cohesion increased team satisfaction (Fung 2014). Van der Vegt *et al.* (2001) discussed positive outcomes of team interdependence, including job satisfaction, positive group feedback regarding team performance, increased cooperation, and positive individual attitudes. Team-based learning techniques have also been shown contribute to individual satisfaction (Lohmann *et al.* 2019). However, conflict within teams is not as straightforward.

Team conflict interferes with individual satisfaction, and empirical evidence supports the negative relationship between conflict and satisfaction (De Dreu & Weingart 2003). However, Jehn and Mannix (2001) differentiated between different types of conflict (relationship conflict, task conflict, and process conflict) and demonstrated that low levels of relationship conflict and process conflict, and moderate levels of task conflict at certain times were healthy for teams.

We predict, based on team learning theory and underpinned by previous research, team cohesion and team interdependence will be positively related to individual satisfaction. We also theorize a negative relationship between team conflict and individual satisfaction.

Hypothesis 4: Team cohesion is positively related to individual satisfaction.

Hypothesis 5: Team interdependence is positively related to individual satisfaction.

Hypothesis 6: Team conflict is negatively related to individual satisfaction.

The Moderating Role of Psychological Safety

“Team psychological safety is defined as a shared belief that the team is safe for interpersonal risk taking” (Edmondson 1999, p. 354), and can be a key determining factor in team success, because it represents how comfortable team members are within their team (Edmondson 1999; Johnson & Avolio 2018). Kahn (1990) described it being able to express feelings, beliefs, concerns or ideas without anxiety of negative reactions or personal costs to self-image, social status, or career standing. Generally, team members need to feel free to voice their opinions and ideas without being ridiculed, teased, or embarrassed by other team members. Antecedents of psychological safety in teams include leader coaching and context support; and psychological safety facilitates effective team functioning and team learning (Edmondson 1999; Johnson & Avolio 2018).

In this study, we suggest that psychological safety in teams will change the relationships between TDI and team cohesion, TDI and team interdependence, and TDI and team conflict.

Hypothesis 7: Psychological safety moderates the relationship between TDI and team cohesion so teams that feel more psychological safety will have more team cohesion.

Hypothesis 8: Psychological safety moderates the relationship between TDI and team interdependence so teams that feel more psychological safety will have more team interdependence.

Hypothesis 9: Psychological safety moderates the relationship between TDI and team conflict so teams that feel psychological safety will experience less team conflict.

3. Methodology

This study used an online survey to collect data from graduate students at multiple locations of a university located in the Midwest region of the United States. The students were enrolled in an MBA program that offers classes in a blended format: 51% online instruction and 49% face-to-face instruction. Students answered questions about their teamwork experiences for a semester-long team project in a management class of an MBA program. The survey was conducted at the end of the project as part of an online peer evaluation of teammates using CATME Smarter Teamwork website. Surveys were sent to all graduate students in six sections of the same class, but located at two different campuses in two large urban cities. Surveys were sent to 400 students. Students were required to complete the surveys as a requirement of the project. As such, the response rate was 100%. However, 15 responses were removed due to incomplete data. The final sample consisted of approximately 385 students, representing 67 teams across the multiple locations. The majority of the sample were female (86%). The largest percentage of participants were Black (34%), followed by White (22%), Hispanic (21%), and Asian (8%). The mean age of the sample was 34.53 +/- 8.44.

Measures

As measurements were available in the literature, adapted scales were used to measure faculty preparation of student teams, quality teamwork, team performance, and individual success. Faculty Development of Teams was measured using the suggested items suggested by Hansen (2006). The items were measured using a five-point Likert scale to determine how often the development

efforts happened across all classes of the MBA program. The choices ranged from 1= in every class to 5=never.

Team Cohesion questions help to understand the team's chemistry toward the project's process and goals (Loughry & Tosi 2008). There are three subscales, including task attraction, interpersonal cohesiveness (Loughry & Tosi 2008), and task commitment (Carless & dePaola 2000), consisting of 9 total questions. The scale uses a five-point Likert scale: 1 = Strongly Disagree, 2 = Disagree, 3 = Neither Agree or Disagree, 4 = Agree, and 5 = Strongly Agree.

Team Conflict was measured using a scale developed by Jehn and Mannix (2001), which uses a five-point Likert scale: 1 = None or Not at all, 2 = Little or Rarely, 3 = Some, 4 = Much or Often, 5 = Very Much or Very Often. The survey consists of nine questions on task conflict, relationship conflict, and process conflict, including the amount of conflict of ideas within the work group, the frequency members became angered in the team, and the frequency of disagreement about resource allocation within the team.

Individual Satisfaction was measured using a scale developed by Van der Vegt, Emans and Van de Vuert (2001), which consists of three questions measured by a five-point Likert scale ranging from 1=strongly disagree to 5=strongly agree. For example, "I am satisfied with my present teammates."

Statistical Analysis

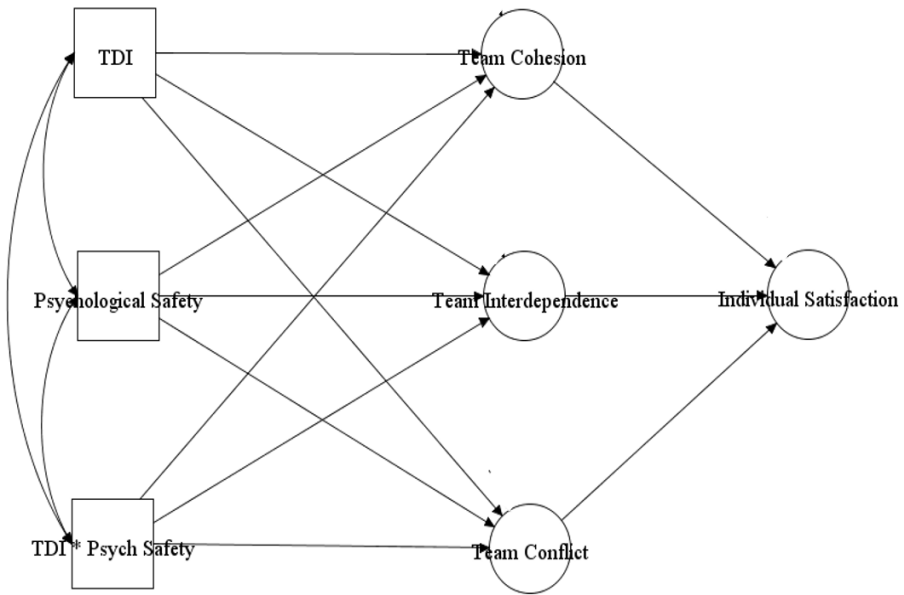
Structural equation modeling (SEM) was conducted using Mplus to examine proposed relationships. SEM has several advantages over traditional regression techniques: (1) it allows for the explicit assessment of measurement error; (2) it estimates latent (unobserved) variables using observed indicators; and (3) it tests the ability of proposed relationships to fit the data (Kline 2015). To address H1 through H3, team development was entered as a predictor of team cohesion, team interdependence, and team conflict. To address H4 through H6, team cohesion, team interdependence, and team conflict were set to predict individual satisfaction. Finally, to address H7 through H9, psychological safety and the interaction term for team development * psychological safety were entered as predictors of team cohesion, team interdependence, and team conflict.

Goodness-of-fit evaluation followed recommendations by Kline (2016). Specifically, fit statistics included the minimum fit function chi-square (with the use of maximum likelihood estimation), root mean square of approximation (RMSEA), comparative fit index (CFI), and standardized root mean square residual (SRMR). These goodness-of-fit indices were used collectively to test model fit. A general rule of thumb for acceptable model fit using these indexes is RMSEA and SRMR \leq .08; and CFI \geq .90 (McDonald & Ho 2002; Stenling, Ivarsson, Johnson, & Lindwall 2015).

4. Results

SEM was conducted to examine proposed relationships. Figure 1 illustrates the model that was tested. Because data was not independent (i.e., participants were grouped within teams), team ID was entered as the cluster variable. This accounted for the non-independence of samples and allowed for more accurate standard errors to be calculated. Overall, goodness-of-fit statistics indicated acceptable fit, $\chi^2(178) = 756.54 (p < .01)$, RMSEA = .07, 90% CI [.06 - .07], CFI = .90, SRMR = .07.

Figure 1: Hypothesized Structural Equation Model



Note. TDI represents team development interventions; TDI * Psych Safety represents the interaction term between TDI and psychological safety.

Table 1 contains standardized model results. Regarding H1 through H3, H1 was supported as TDI was positively related to team cohesion ($\beta = .18, p < .01$). However, H2 and H3 were not supported as TDI did not significantly relate to team interdependence or team conflict. Next, model results indicated that H4 through H6 were all supported. Specifically, team interdependence positively predicted individual satisfaction ($\beta = .09, p = .02$), team cohesion positively predicted individual satisfaction ($\beta = .71, p < .01$), and team conflict negatively predicted individual satisfaction ($\beta = -.18, p = .03$).

Table 1: Summary of Structural Model Results

	R^2	β	SE	p
Team cohesion	.41*			
TDI		.18	.04	<.01
Psychological safety		.58	.05	<.01
TDI * Psy safety		.11	.04	.01
Team interdependence	.05*			
TDI		.06	.06	.37
Psychological safety		.20	.06	<.01
TDI * Psy safety		-.02	.06	.79
Team conflict	.30*			
TDI		-.08	.05	.08
Psychological safety		-.52	.06	<.01
TDI * Psy safety		-.06	.07	.04
Team Satisfaction	.75*			
Team cohesion		.71	.08	<.01
Team interdependence		.09	.04	.02
Team conflict		-.18	.08	.03

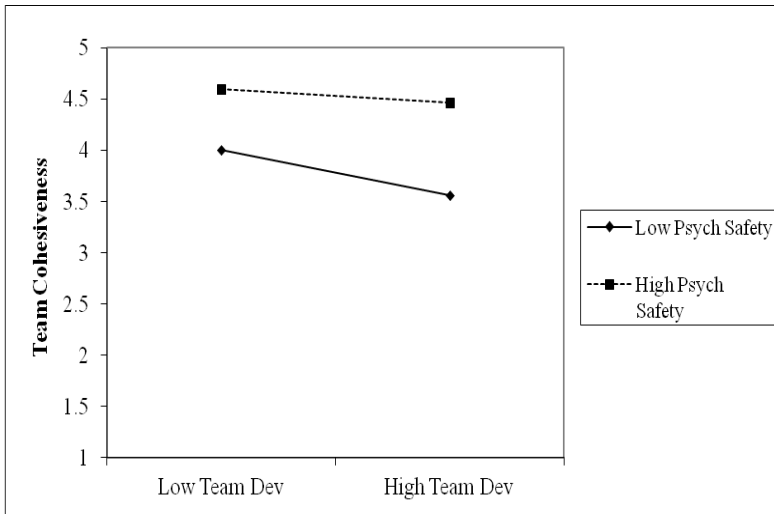
Note. TDI = Team development interventions; TDI * Psy safety = interaction term for TDI and Psychological safety.

R^2 indicates the percent of variance explained in each latent variable.

* $p < .01$

To test H7 through H9, standardized main effects for TDI and psychological safety along with their interaction term were entered as predictors of team cohesion, team interdependence, and team conflict. Model results indicated that there was a significant interaction when predicting team cohesion ($\beta = .11$, $p = .01$), however the interaction term did not significantly predict team interdependence or team conflict. As recommended by Cohen, Cohen, West, and Aiken (2003), an interaction plot was created to further examine the moderation effect. To do so, predicted regression lines were plotted for psychological safety at one standard deviation above and below the mean and simple slopes were tested for significance. As shown in Figure 2, for those low in psychological safety, there was a negative relationship between team cohesion and TDI ($p < .001$), however the predicted regression line for those high in psychological safety was not significant ($p = .15$). Thus, it was apparent that there was not a significant relationship between team cohesion and TDI for those high in psychological safety.

Figure 2: Regression analysis predicting team cohesiveness



Note. Regression lines are plotted at one SD above and below the mean of psychological safety.

5. Discussion

Team Development Interventions (TDI) were found to significantly positively impact team cohesion, and team cohesion was found to correlate positively with individual satisfaction. This study found that TDIs positively correlate with team cohesion (H1). In other words, the more positive interventions by faculty to develop the team leads to higher levels of team cohesion. Faculty to team development interventions in this study were effective for team cohesion, but not for team interdependence (H2) and team conflict (H3). This is an important result. Several factors affect team cohesion, including leadership from team mentors. Studies have demonstrated that coaches’ and teachers’ perceived justice, instruction training, social support, democratic behavior, and positive feedback strongly relate to team cohesion (Fransen, Decroos, Vande Broek, & Boen 2016). In line with team learning theory, this study demonstrated that team development interventions by faculty can increase team cohesion. To increase cohesion in student teams, faculty should explain to students the relevance of team projects and teamwork to future careers, teach team building techniques to students, give students time during class to work in their teams, assign team projects that mimic real-work experiences, establish and communicate clear goals for team projects, ensure a reasonable workload, give students feedback along the way, keep track of individual contributions within the team, and allow students to evaluate their peers and influence their peer’ grades. Faculty should be visible and deliberate about their efforts to develop teams to allow students to witness their attempts to

model collaborative behavior (Gratton & Erickson 2007). Hopefully, in seeing these interventions business students or potential workforce leaders will learn more about team functioning and be prepared to lead effective executive and cross-functional teams in business. Similar to the classroom, collaboration in companies depends on company leaders' ability to be clear about a team's work, including the goal, the process, the team members' roles and conduct expectations. Leaders should also be knowledgeable and willing to provide training on how to work in teams (Meinert 2019).

Conversely, however, TDI was not positively correlated to team interdependence (H2), or a team's ability for its members to work both individually and collectively independent. Since team interdependence is predicated by clear set of team expectations, a pooling of qualified individuals, and a productive motivation and reward system, there would not be as much of a need for TDIs so their influence would not impact independent teams.

TDI did not negatively correlate to team conflict (H3), however team conflict was negatively correlated with individual satisfaction (H6). In other words, team conflict was not reduced or increased by team development interventions, however the more conflict within a team, the less individual satisfaction. As expected based on team learning theory, team cohesion was found to significantly positively correlate to an individual's satisfaction with the team and the project (H4) and team interdependence (H5) was positively correlated with individual satisfaction.

The degree of psychological safety within the team environment moderates the relationship between the TDIs and team cohesion. There is moderation present because for those participants low in psychological safety, a negative relationship exists between cohesion and TDI. However, there is not a significant relationship between the two variables for those high in psychological safety (H7). This indicates that some degree of psychological safety is advantageous in order for faculty team development interventions to be effective in increasing team cohesion. Team members should feel safe to work in teams. Psychological safety was not a moderator for the relationship between team interdependence and TDIs (H8). Similarly, psychological safety did not moderate the relationship between TDIs and team conflict (H9).

6. Implications, Notes and Instructions for Faculty

It is important for faculty to implement techniques to facilitate successful teamwork. Educators in Organizational Behavior (OB) and Human Resources (HR) courses can incorporate the techniques and findings discussed to promote, facilitate, and enhance team experiences, thus leading to more productive teams, successful interactions, and individual satisfaction. Below, we provide several recommendations for facilitating successful teamwork. As previously noted, the

data collection for this study was conducted as part of the online peer evaluation of teammates using CATME Smarter Teamwork website. As such, many of our recommendations for instructors center around using the CATME resources for team organization.

1. Projects requiring teamwork demand a strong instructor who can set agendas, match up tasks with the skills of those chosen for the team, and has a keen sense of recognizing weaknesses in members and minimizing the chance of project failure by creating positive synergies within the team through member diversity of skills, work ethic, experience and personal compatibility. We used CATME (Comprehensive Assessment of Team Member Effectiveness, www.CATME.org) resources to form and manage our student teams. Instructions can be found here: <https://www.youtube.com/watch?v=iv0PD5qoNKk&feature=youtu.be>. CATME also provides tools for organizing and assigning students to teams, <https://info.catme.org/features/team-maker/>
2. Being aware of the impact of team development interventions (TDI) on team success and appropriately utilizing said techniques is key for instructors working with teams. Lacerenza et al (2018) identified four major types of TDIs, with evidence and excellent examples of each: (1) team training, (2) leadership training, (3) team building, and (4) team debriefing. The authors discussed detailed recommendations regarding team building, feedback, team leadership training, and team training. These can be adapted to team scenarios in OB/HR courses.
3. In addition, CATME was developed to assist student teams with their coordination, communication, and evaluation through web-based tools. OB/HR faculty could adopt these web-based tools and ready-to-use forms when intervening with student teams, <https://info.catme.org>
4. Other methods include setting aside time (in class or through virtual sessions) for instructors and students to brainstorm and collaborate about project topics and ideas prior to committing to a topic; explaining the importance or relevance of the teamwork in relation to the project goals; dedicating time to modeling teamwork behaviors and developing teamwork skills prior to and during the teamwork process; paying attention to prescribed methods and implications of team formation (self-selected teams vs. assigned teams), assigning a reasonable workload with clear instructions, goals, and methods; establishing a workable timeline with clear periodic goals; allocating class time (virtual sessions or face-to-face sessions) to team interactions; incorporating peer evaluations; facilitating and

encouraging communication throughout the project (e.g. weekly status reports from the team to the instructor, instructor feedback through emails, video chats, one-on-one conferences, team conferences, notes through learning management systems for all team members to review, and guidance in areas where the team might be falling short); and steering individuals to keep their own notes and records of team communications and progress (Hansen 2006). Additionally, faculty can mimic teamwork situations in the workplace for a seamless transition from the classroom to the workplace.

Limitations and Future Research

This study was limited to the population of students from one university. A larger pool of participants from various educational facilities might help better identify the most successful TDIs. Additionally, the participant pool was overwhelmingly female. Including a more gender-diverse population might yield more conclusive results. The study relied on cross-sectional data. Longitudinal data collected at different points in time across different programs of study might reveal more about student experiences as they work on multiple teams across multiple classes with multiple instructors.

This study did not differentiate between online and face-to-face students. Future research in this area might focus on the impact of the global COVID pandemic and how working more exclusively online and ever before impacts team success. Additionally, as the workplace has continued to move to a more virtual format (partially to fully), faculty will need to develop TDIs that work for online formats in order to smoothly transition from online learning teamwork to online workplace teamwork.

Conclusion

Teamwork is a fundamental element of business. Building strong, integrated teams enhances the chance of building and maintaining a successful environment of collaboration in business. This study shed light on what professors can do to increase team cohesion. It also focused on the importance of team cohesion, team interdependence, and team conflict to individual satisfaction in teams. The key to building cohesive teams is three-fold: 1. setting and communicating clear, comprehensive goals; 2. picking team teams with a diverse set of desired skills; and, 3. having a team leader (or co-leaders) who is/are respected, knows how to delegate and appreciates the team-building concept.

Successful teams are not formed by happenstance. They result from calculated team development initiatives facilitated by not only the organization but also by a mentor. In graduate school, the mentor role is often held by the instructor. Mirroring workplace encounters, mimicking ways to adapt in unfamiliar scenarios, and facilitating team development is vital for successful teams in an educational environment, skills which transcend to the workplace and

are a desired trait of employers. Preparing students to serve in team membership helps bridge one of many gaps between educational goals and workplace and industry needs.

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