ISSN NO. 2320-5407

Journal homepage: http://www.journalijar.com

INTERNATIONAL JOURNAL OF ADVANCED RESEARCH

RESEARCH ARTICLE

How Task interdependence Moderate the Effect of Team Member Collectivism on Team Creativity: An Empirical Study in Sri Lankan Context

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Acknowledgement: "This research was jointly supported by the National Natural Science Foundation of China (nos. 71232001 and 71071064)."

Manuscript Info

Manuscript History:

Received: 12 March 2014
Final Accepted: 22 April 2014
Published Online: May 2014

Key words:
Collectivism, Team member collectivism, Task Interdependence, Team Creativity, Sri Lanka

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Abstract

In this paper we examined how individual level collectivism related to team creativity. Further we conceptualized that how situational factor; task interdependence moderate the relationship between team member collectivism and team creativity. To address and explore this possibility, we conducted an empirical study in Sri Lankan context with sample of 87 teams. Hierarchical regression analysis was performed. The results showed that task interdependence moderated the relationship between team member collectivism and team creativity. These results supported the conclusion that team member collectivism was associated with higher levels of team creativity in teams under work conditions; that is, conditions in which the tasks of individual members were interdependence in their task. Based on the findings managerial implications and future research direction were highlighted.

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Introduction

Current research in organizational behavior suggests that organizations should adopt collectivistic values because they promote cooperation and productivity, while individualistic values should be avoided because they incite destructive conflict and opportunism (Goncalo, and Staw, 2006). Particularly this article focus on how collectivistic values can be benefitted in relation to team creativity in the collectivistic culture. In collectivist cultures, people are more likely to sacrifice task achievement for the sake of good relationships with others (Triandis, 1995) and people may hold personal beliefs (private self) that differ significantly from the group norm (public self), but will behave in accordance with the group norm (Chen et al., 1998; Triandis, 1995). In contrast, in individualistic culture people tend to place greater importance on achieving tasks than on maintaining harmonious relationships (Oyserman et al., 2002) and emphasizes uniqueness, autonomy, self-initiative and independence (Jones and Davis, 2000). Earley, (1993) confirm it such a way that individualists perform tasks better when working alone than when working with others, but that collectivists perform better working with other members of their in-group than with members of out-groups or alone. Collectivistic group values reduce social loafing and increase cooperation (Wagner, 1995), and that people in collectivistic organizational cultures will identify more strongly with their work groups (Chatman, Polzer, Barsade, & Neale, 1998) and emphasizes and interdependence (Brewer and Chen, 2007). However, there may also be some risks associated with a shift toward collectivism. Although collectivistic values may promote feelings of harmony and cooperation which,

emphasizing the greater social harmony, interpersonal helping, conformity to the group, and consensus; they may also extinguish the creative spark necessary for innovation (Goncalo, and Staw, 2006) and which are restraining the generation of unique and useful ideas that important for creativity (Brewer and Chen, 2007).

Team-based work environment have grown increasingly in contemporary work organizations and teams are increasingly responsible for work performed in organizations. In teams, one cultural attribute; collectivism seemed particularly important to take into account, as it captures "differences in the extent to which individuals prefer to act as members of a group and are motivated to maintain positive image of their group" (Jackson, Colquitt, Wesson, & Zapata- Phelan, 2006, p. 884). Thus it is important to investigate how team member collectivism that might influence the team creativity in team work environment and how usefulness of collectivism can be increased towards team creativity. This study primarily focused to study that how team member collectivism (as a cultural factor) related to team creativity in Sri Lankan context where Sri Lankan's are said to be collectivistic in nature. In general, individualism is associated with Western cultures and collectivism is associated with Eastern cultures (Triandis, 1995). Hofstede, (1980); Triandis, (1995) stated in their study that many Western countries score higher on individualism, whereas many Asian countries, score higher on collectivism.
To address and explore this possibility, we present an empirical study (see figure: 1) to show how collectivistic orientation can influence the team creativity of people working on a team task and how the relationship between team member collectivism and team creativity is moderated by situational factor that is task interdependence because the cultural variation in creativity will be moderated by the social and task contexts (Erez and Nouri, 2010) and Zhou & Su (2010) have suggested in their study that the social context as one of the major missing concepts in the study of culture and creativity. Further they suggested that the social context strengthens the influence of cultural values on a person's actions.

In Sri Lanka, Telecommunication and service industries are highly improved gradually in recent years. For the purpose of this study data gathered from these sectors, where people work together as a team and creativity and innovation are the main passion of these sectors. This paper proceeds as follows. First, we describe the basic elements of individualism and collectivism by describing how people differ from each culture. Second, we link collectivism to creativity and argue that collectivism is preferable when creativity is the desired outcome for the organizations under condition where task are interdependence i.e. task interdependence as an important moderator of collectivism- team creativity relationship. Finally, we discuss whether people in collectivistic cultures may also be creative if they are highly interdependence on task in their work. Thus, this study propose that, given growing organizational interest in developing team work environment, one individual differences, collectivism and situational factor that is nature of task interdependence may prove important to understanding the employees' team creativity in organizations. To prove this understanding we combine and integrate theory and research on culture (collectivism perception), situational (task interdependence) and team creativity. Consistent with the current interactionist models of creativity and innovation, (Woodman, Sawyer & Griffin, 1993; Woodman & Schoenfeldt, 1990). We suggest that an individual's creative and innovative behavior is the complex product of a person's relationships with fellow team members and the team context. Particularly, we argued that team member collectivism, team member's task interdependence with other team members in an interactive way will predict team creativity in a positive way. This study will contribute creativity literature such a way that team creativity can be achieved in collectivistic culture when task are interdependent among team members.

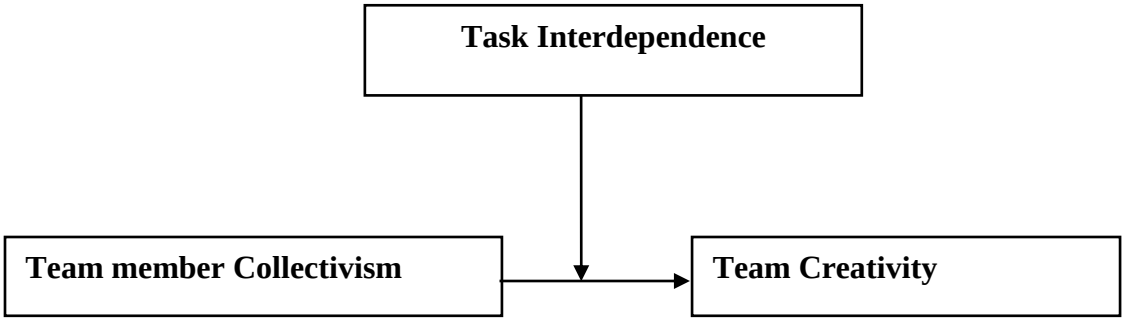

Figure 1: Proposed Model for the Purpose of this Study

Theory and Hypotheses

According to the interactionist model which were developed by Woodman and Schoenfeldt (1989, 1990) they suggest that creativity is the complex product of a person's behavior in a given situation. The situation is characterized in terms of the contextual and social influences that either facilitate or inhibit creative accomplishment. On the basis of this creativity theory, the present empirical study focuses on culture and creativity in the organizational environment. Prior research Hui, and Triandis (1986) indicates that individualism-collectivism is the most important distinguishing dimension of cultures.

Defining Individualism and Collectivism

Though our focus is on individual member collectivism and team creativity, it is difficult to understand the meaning of collectivism without the presence of individualism. Thus, it is crucial to understand the difference between individualism and collectivism to fully capture the meaning of collectivism as a cultural construct. Individualism-collectivism have been studied an important socio-psychological variable used to account for differences among cultures by focusing on the relative emphasis placed on the needs, desires, values and goals of the individuals and the groups (Houston, et al. 2012). Collectivism emphasizes the interdependence of individuals, whereas Individualism emphasizes the independence from groups/collectives (e.g., family, class).
Hofstede (1984) identified Individualism-Collectivism; Individualism implies a loosely knit social framework in which people are supposed to take care of themselves and of their immediate families only, while collectivism is characterized by a tight social framework. Although Hofstede's (1993) five dimensions (Power Distance; Uncertainty Avoidance; Individualism-Collectivism; Masculinity-Feminity and long-term orientation) have served as the basis for research examining cultural differences, However, this study focus on one dimension, collectivism, because Wanger's (1995) evident suggest that the individualism-collectivism dimension plays a major role in cooperative behavior of individuals in a group. Further he demonstrated that high collectivism contributes to high cooperation in group work, i.e., students who identified themselves as individualists were rated by classroom colleagues as less cooperative than were students who reported to be collectivists themselves. In general, individualism is associated with Western cultures and collectivism is associated with Eastern cultures (Triandis, 1995). Thus this study focuses to study on team member collectivism orientation and team creativity in the natural settings that is in Sri Lankan context, where Sri Lankan said to be collectivistic in nature.

Individualism and collectivism and Team creativity

Empirical studies (Chen, et al., 1998; Vogel, Davison, and Shroff, 2001) have successfully used and documented that cultural dimension predict human behavior. How differences in individualism– collectivism might affect the performance of individuals workings in teams have been documented by many authors (Wagner & Moch, 1986; Earley, 1989; Triandis, 1995; Erez & Somech, 1996; Shaw et al. 2000). These studies have produced sufficient evidence that greater collectivism, as opposed to individualism, is associated with higher levels of individual performance on tasks shared among the members of groups and teams. Many Studies concluded that collectivism

enhances the performance of individuals working in teams (Miles, 2000; Shaw et al. 2000; Gundlach, Zivnuska, & Stoner, 2006; Taras, Kirkman, and Steel, 2010). However the relationship between individualism-collectivism and creativity is somewhat different form the relationship between individualism-collectivism and performance. Amabile (1983) defined creativity as ideas that are novel and useful within an organization. Another definition defines creativity as "the production of novel and useful ideas concerning products, services, Processes, and procedures by a team of employees working together" (Shin & Zhou, 2007, p. 1715). At this point, it is worthy to differentiate creativity and innovation. Amabile et al., (1996) define innovation as the successful implementation of creative ideas within an organization. In this view, it is clear that creativity by individuals and teams is a starting point for innovation; the first is a necessary but not sufficient condition for the second. Successful innovation depends on other factors as well, and it can stem not only from creative ideas that originate within an organization but also from ideas that originate elsewhere (as in technology transfer, Amabile et al., 1996). Team creativity at a particular point in time could be explained as either average or a weighted average of team member creativity (Pirola-Merlo and Mann (2004).

Previous literature documented that culture influences creativity. For example, research on creativity at team level (Nemeth and Staw, 1989) has documented that the potential tradeoff between social control and creativity in the organizations. Individualism emphasizes uniqueness, autonomy, independence, and self-initiative, all important to novelty (Jones & Davis, 2000). In contrast, collectivism emphasizes conformity to the group, consensus, and interdependence, all restraining the generation of unique ideas and self-expression (Brewer & Chen, 2007).

Goncalo, and Staw, (2006) in their study of individualism –collectivism and group argued that a particular dimension of culture can serve to either intensify or mitigate conformity pressures in task groups. Few studies have studied Individualism- collectivism and creative behavior. Barron and Harrngton, (1981) found that highly creative individual had independence of judgment, autonomy and self confident that allowed them to propose novel ideas that might not be readily accepted by others. Thus it seems individualistic culture can permit members to propose novel ideas. In contrast usefulness of collectivism values, emphasizing the greater social harmony and interpersonal helping, thus there may be greater potential for social control in the organization and it may precisely increase level of conformity. Although conformity pressure can help maintain group cohesion and may be necessary for the group to be productive, such pressure can also undermine or pose limitation that seek creativity (Goncalo, and Staw, 2006). According to Erez and Nouri (2010) cultural values such as power distance, collectivism, and uncertainty avoidance may restrain individuals from generating novel ideas, but may in contrast direct them to emphasize the usefulness and appropriateness of their ideas. Further, Erez and Nouri (2010) in their graphical representation of the relationship between these cultural values and the two components of creativity – novelty and usefulness, impliedly state that collectivism is more related to usefulness and individualism is related to originality, i.e., individualism and collectivism influence creativity in different ways that is, while individualism encourages idea novelty, collectivism stresses the elaboration on the usefulness and appropriateness of an idea to ensure social acceptance and compliance with social norms.

These literatures clearly suggest that culture influences employees' performance and creativity and this two cultural dimensions influence creativity in different way. Individualism is promoting creativity and collectivism restricts creativity. Thus we focus how team creativity can be enhanced in the collectivism culture where creativity is desirable out come. Thus in this study we argue that if tasks are interdependent among team members it allow them to share ideas, information that may bring synergy effect that can promote creativity in teams. The following discussion provides theoretical arguments as well as empirical support for the debate that relationship between team member collectivism and team creativity is determined by the task interdependence.

Collectivism, Task interdependence, and Team creativity

Collectivism and Individualism have been used to describe cultural differences across nations. Collectivism emphasizes the interdependence of individuals, whereas Individualism emphasizes the independence from groups/collectives (e.g., family, class). One form of interdependence is task interdependence. Group members interact and depend on one another to accomplish the work (Campion, and Medsker, 1993). The degree and type of interdependence between a team member and the other team members is generally seen as an important determinant of the quality of interpersonal interaction (Johnson & Johnson, 1989), it seems reasonable to posit a relationship between interdependence and innovative behavior. Creativity or novel and useful ideas require that team members work with interactive way to share the information and cooperate with one another to come up

with new and useful ideas. Woodman et al. (1993) specified that variables at the individual, team, and organizational level interact in promoting innovation in organizations. Specifically, at the team level the theory points to the role played by the composition and structural characteristics of teams in promoting innovative behavior in organizations. A high level of group diversity brings more perspectives and ideas to groups and is a source of creativity and innovation. In such diverse groups, the interpersonal contacts among team members, resulting from higher levels of task interdependence, may have the potential to increase individual innovative behavior (Van der Vegt, & Janssen, 2003). Further they state that cooperation problems, distrust, and stereotyping among team members will inhibit a team member's willingness to combine and integrate diverse perspectives into innovative ideas. Moreover, the lack of cooperative interpersonal interactions makes it unlikely that team members receive the necessary support to promote and realize novel and useful ideas. Thus, these clearly suggest that having more cooperative interpersonal interaction with each other in team environment promotes novel and useful ideas. Since collectivism is associated with harmony and cooperativeness, task interdependence may influence the relationship between individual level collectivism and team creativity. Task interdependence has been defined by many authors. Task interdependence refers to the extent to which team members are dependent on one another to carry out their tasks and perform effectively (Hulsheger, Anderson, and Salgado, 2009).Van der Vegt and Janssen (2003) define "the extent to which employees depend on other members of their group to carry out work effectively" For the purpose of the current study, we adopted this definition of task interdependence.

Task interdependence and team outcome has been studies by many Authors (Saavedra, Barley, and Van Dyne, 1993; Van der Vegt & Janssen, 2003; Tjosvold, Tang, & West, 2004; Jackson, Colquitt, Wesson, and Zapata-Phelan 2006; Wagner III, et al., 2012). In the interdependence task nature, Individuals pull together, help each other, and discuss different viewpoints to optimize performance, which in turn benefits the team as a whole as well as every team member (Tjosvold, Tang, & West, 2004; Van der Vegt & Janssen, 2003).

Jackson, Colquitt, Wesson, and Zapata-Phelan (2006), examined the relationship between team member collectivism and performance. In their study, they found that who worked in teams on shared tasks wherein team members found to provide a satisfactory service. Further their analysis revealed that self-reported collectivism explained 10 per cent of the variance in supervisory ratings of employee performance, with team member collectivism associated with higher levels of member performance on shared tasks.
Wagner III, et al., (2012) found that participants performing a mix of individualized and shared tasks in four-person teams indicate that heterogeneous combinations of individualism and collectivism are associated with higher levels of team member performance, measured as quantity of output, when loose structural interdependence enables individual differences in individualism– collectivism to exert meaningful effects and their results support the modified conclusion that a combination of individualism and collectivism is associated with higher levels of member performance in teams under typical work conditions; that is, conditions in which the tasks of individual members are both individualized and shared. Further they pointed out that research on the relationship between team member individualism–collectivism and performance indicates that individualism can increase the performance of team members on individualized tasks and reduce performance (increase free-riding or loafing) on shared tasks, whereas collectivism can enhance the performance of team members on shared tasks and reduce performance on individualized assignments.

Other research by Saavedra, Barley, and Van Dyne, (1993) studied on complex interdependence in task performing Groups. Their analyses revealed that complex interdependence was significantly related to performance quantity and quality and to task strategy and intragroup conflict. Further they state that generally, complex interdependence influenced group performance strategies, which in turn affected group performance positively and another study from Van der Vegt, & Janssen, (2003) showed that interdependence can be beneficial to individual team members' innovative behavior. More specifically, it is the cooperative interdependence resulting from high task and goal interdependence that enables individual team members to exploit the benefits of diverse values, skills, and perspectives in diverse groups at work. Further, their multilevel analyses revealed that individual's perceived task and goal interdependence were not related to innovative behavior in homogeneous teams. In heterogeneous teams, however, task interdependence was strongly and positively related to innovative behavior for individuals who perceived high levels of goal interdependence, and unrelated to innovative behavior for those who perceived low levels of goal interdependence.

Podsakoff et al. (2000) concluded that, whereas activities characterized by high levels of task interdependence demand considerable cooperation among group members to accomplish these activities, little or no cooperative effort is required to accomplish activities characterized by lower levels of task interdependence. These arguments impliedly suggest that the same behaviors that facilitate highly interdependent group processes may actually slow down performance in less interdependent groups.

Paul et al. (2004-2005) indicated in their study that the individualistic- collectivistic orientation of the team members will have a major influence on their collaborative styles in virtual team interactions. There may be logical reasons to expect positive relationships between task and goal interdependence and innovation, as both stimulate interpersonal interaction, communication, and cooperation within the team (Van der Vegt et al., 1999; Van der Vegt & Van de Vliert, 2002). The possibility is when members of team interacting with each other can exchange ideas, discuss different viewpoints, and integrate and evaluate them to create high-quality products or suggest creative and innovative procedures. Previous studies from Iwao and Triandis, (1993); Triandis, (1995) concluded that in collectivist cultures, people are more likely to develop relationship based modes of post conventional reasoning than in individualist cultures because the collectivist concept of the self is inherently interdependent. Thus we assume that the nature of the collectivism culture (Interdependence of individuals) may influence team creativity with interaction of task interdependence of individual members of a team in the organization. That is situational factor; task interdependence facilitates the influence of the cultural value of Collectivism to predict in team creativity. Taken idea together from above literature, we predict the following Hypotheses:

H_1: Team member collectivism positively related to team creativity significantly

H_2: The relationship between team member collectivism and team creativity is moderated by task interdependence in such a way that team member collectivism is more positively related to team creativity when task interdependence is high than when task interdependence is low

Method

Research Sample design, participant and over view of the study

Research design for this study was field study to test relationships in the model. This research focused on team conflict within telecommunications and service driven teams. These teams were drawn from six large companies which are related to telecommunication and service industries in Sri Lanka. These organizations had service, separate research and development units; reflecting, new product or service development according to changing needs of the customer demand. Branches of these company functioned as distinct teams in themselves in all island. Generally these branches are called teams. The sample team was drawn from these branches all over the Island. These telecommunication and service companies compete consistently each other to catch market share (i.e. they do their business in a high competitive environment). The tasks of teams are routine and non-routine based on the competitive situation (teams' day to day task are routine, but sometimes teams members have to work in a special situation e.g. marketing campaign to introduce new product or service to its customers based on the competitive situation of the company).

Participants

A sample of 100 teams was identified based on the availability of the branches. The response rate was 87.8%. Of the remaining employees either they or their supervisors did not respond. After deleting incomplete questionnaire, final sample of this study consisted of 439 team members of 87 teams. Including team leaders, 525 responses representing 87 teams were considered for analysis. Team consisted of marketing, new product development, service and maintenance. Team members are working interdependently toward achieving common goals of the team. Team leaders and team members were highly homogeneous in terms of nationality (all were Sri Lankan).

The average team member is 5.8 and the average work experience of team members is 6 years. Among the 439 team members 58% were men. Of the sample 61% of the respondents were not married. In regard to educational background of the respondent, majority of the respondents (40 %) had G.C.E. (A/L) qualification, around 20.5 percent of the respondents hold a bachelor degree, 3.2 % had G.C.E. (O/L) qualification, 31.6 % Certificate or

Diploma, and 3.2 % had a postgraduate degree and rest did not report their educational level. Finally, age range of the respondents; (27 % percent) of the respondents were in the 20-24 age range, 39 % were in the 25-29 age range, and 18 % percent were in the 30-34 age range rest were aged above 35.

Data Collection procedure and Measures

Team leaders of the teams were contacted directly by researcher and purpose of the research, how to fill out the questionnaire, procedure of the recollection of the questionnaire were explained to team leaders as well. Two sets of questionnaire were distributed. Of the two, one questionnaire directly given to team leaders who are the direct leaders of the team and they rated team creativity of their team. Thus team leaders were proper raters of team creativity. The other questionnaire was distributed to team members directly in their work place. Confidentiality of the information assured to team members and both sets of questionnaire collected separately and packed together so as to confirm team leader responses towards his or her team. Prior to the study, English version of the questionnaire was translated into Tamil and Sinhala (National Language) Polished by bilingual scholars who were native speakers and back translated by scholars who were bilingual native English speakers.

Team member collectivism Scale

Dorfman, & Howell s' (1988).-Individual level collectivism which was modified by Chen et al., (2011) was used. This scale consists 6 items. Respondents will be asked, to what extent do you agree or disagree with the following statements? (1. strongly disagree, 2. moderately disagree, 3. neither agree nor disagree, 4. moderately agree, 5. strongly agree). Sample items included were "Group welfare is more important than individual rewards"; Group success is more important than individual success"; and Employees should only pursue their goals after considering the welfare of the group. Cronbach's α for these items at the individual level was .71

Task interdependence Scale

Five items based on previous research were used to measure individual team members' task interdependence (Van der Vegt et al., 2000, 2001). Items scored on 5-point Likert scales ranging from 'Completely disagree' (1) to 'Completely agree' (5). Sample items included were "I need information and advice from my colleagues to perform my job well"; "I have a one-person job"; and "I need to collaborate with my colleagues to perform my job well. Cronbach's α for these items at the individual level was .62

Team Creativity Scale:

For the purpose of this study, team creativity scale, which has been combined from De Dreu and West's (2001) four-item scale and Tjosvold, Tang, and West's (2004) two items was used items modified to capture the team creativity in Sri Lankan context. This scale was recently used by Chi, Huang, Lin, (2009) in their study. For each teams supervisors were asked to indicate, on a five point scale ranging from 1(strongly disagree) to 5 (strongly disagree). Since team leaders are an appropriate informant to rate team creativity and innovation, because goals are set by the team leaders and they are informed about the team's innovativeness (Tjosvold et al., 2004), it is most appropriate to rate team creativity by team leaders; thus, team leaders were asked to indicate their responses on 5-point scales (1 = strongly disagree to 5 = strongly agree). The subjective (supervisor) measure of team innovation has been widely used and accepted by many authors (e.g., De Dreu & West, 2001; Seibert et al., 2004; Tjosvold et al., 2004; Shin and Zhou, 2007; Chi, Huang, Lin,. 2009). Sample items were "Team members often generate new ideas to improve the quality of our products and services"; "This team gives full consideration to new and alternative methods and procedures for doing their work"; and "Team members often produce new services, methods or procedures" Cronbach's α for this items at the individual (team leader) level was .78

Inter-rater Agreement for Team Level Analysis

For the purpose of this paper, all individual scores on the conceptualized variable, team member collectivism, and task interdependence were aggregated. Further, we checked appropriateness of aggregating the responses individual team members to the team level analysis by adopting within group agreement developed by James, Demaree and Wolf (1984). The means and medians of inter-rater agreement (r_{wg}) values were as follows: team member collectivism, .79 and .88; and task interdependence, .82 and .85 respectively. The results of the r_{wg} exceeded the.70, indicating aggregation of these individual responses to the team level was appropriate (Bliese, 2000). In addition to this we calculated ICC (1) and ICC (2) to confirm inter-rater reliability to see the sufficient inter-rater reliability. These values yielded for collectivism 0.18, .52; task interdependence .21, .57; task conflict

0.19, .53 and relationship conflict; .19, .53 respectively. Thus aggregating the responses to the team level was appropriate (James, 1982; Bliese, 2000).

Control variables

In the team creativity studies team size and tenure were used as control variables in the analyses of the creativity in teams to ensure potential influence on team creativity (e.g. Shin et al., 2012; Chen, Sharma & Farh, 2011). Further we controlled relationship conflict and task conflict because of their effects on team process and outcome (Drach Zahavy & Somech, 2002; Moye & Langfred, 2004) and high task interdependence implies the need for intensive interactions among members; it creates more opportunities for conflict (e.g. Jehn, 1995). For the purpose of this study six –item measure was used to measure task and, relationship conflict. Team members completed their responses on 5-point scales (1 = none to 5 = Great deal).Task Conflict Scale was assessed by three- item scale developed by Jehn (1995) as mentioned above. Sample items for task conflict are the following: "How many disagreements over different ideas were there?" and "How many differences about the content of decisions did the group have to work through?" (Cronbach's α at the individual level was .67.). Relationship Conflict was assessed by three- item measure of Jehn (1995). Sample items for this scale are "How much anger was there among the members of the group?" and "How much personal friction was there in the group during decision?" (Cronbach's α at the individual level was .71). We averaged the scores across team members to do team level analysis (Shin and Zhou, 2007).

Results

Data analysis consisted of two major components. The first part of the analysis presents the descriptive statistics and correlations among variables. Secondly, we tested hypothesis using hierarchical regression analysis.

Table 1 Descriptive Statistics and Correlations

Variables	Mean	SD	1	2	3	4	5	6	7
1. Average team size	5.3	1.6	-						
2. Average experience	5.9	2.1	.03	-					
3. Relationship Conflict	2.7	.51	-.09	-.21*	-				
4. Task Conflict	2.9	.49	-.13	-.14	.61**	-			
5. Team member collectivism	3.8	.35	-.07	.09	-.15	-.07	-		
6. Task Interdependence	3.6	.33	-.07	.08	-.20	-.05	.53**	-	
7. Team Creativity	3.7	.58	-.17	.01	-.11	-.17	.16	.21*	-

N= 87, *. Correlation is significant at the 0.05 level (2-tailed). **. Correlation is significant at the 0.01 level (2-tailed).

From the above table, the mean value of team member collectivism suggest that Sri Lankan's perception is towards collectivism (M=3.8). Correlation give right path for testing hypothesis, that is team member collectivism was not significantly related to team creativity (r=.16) and it enabled us to test the moderating effect of task interdependence in the relationship between team member collectivism and team creativity.

Table 2: Summary of Regression Results for Interaction Effect

Independent Variable	Block 1:	Block 2:	Block 3:
Step 1:			
Average team size	-.18	-.18	-.15
Average experience	-.02	-.02	-.06
Relationship Conflict	-.00	.02	.06
Task Conflict	-.18	-.20	-.21
Team member Collectivism	.14	.05	.16
ΔR^2	.08	-	-
Step 2:			
Task Interdependence		.17	.19
ΔR^2	-	.02	-
Step 3:			
Team member Collectivism x Task Interdependence			.25*
ΔR^2	-	-	.05*
R^2 for total equation	-	-	.16*
F (df) for total equation	1.5(5,81)	1.8 (1,80)	4.8 (1,79)

Dependent variable: Team Creativity
Note: Standardized coefficients are reported for the final step in each model. *p<.05, **p< .01.

The variables entered into the regression analysis at three hierarchical steps: First, the control variables and independent variables were entered in the first block, the moderator variables were added in the second block, and the interaction terms obtained by multiplying the moderator variables by the independent variable were added in the third block. That is (a) control variables: (b) team member collectivism and task interdependence: (c) interaction term (team member collectivism X task interdependence). All variable were mean deviated as recommended by Aiken and West (1991).

The first step and second, which contained each main predictor (control variables, team member collectivism and task interdependence) variable, did not produce a ΔR^2 value of 0.05 (p> .01). That is team member collectivism did not relate to team creativity (β= .14, ΔR^2 value of 0.05 (p > .01). Thus H_1 was not supported. To test the interaction effect of task interdependence on the relationship between team member collectivism and team creativity, third step was performed.

In support of the above mentioned hypothesis 2, the beta associated with the team member collectivism x task interdependence interaction was statistically significant and positive when we control the team size, team experience, relationship conflict, task conflict, team member collectivism and task interdependence. The interaction term was entered into the third step of the regression model and, accounted for additional significant variation in team creativity (change in R^2 = 0.05; F change=4.8, p < .05; see above Table, 2. That is the interaction between team member collectivism and task interdependence was statistically significant and positive (β=.23, ΔR^2 value of 0.04, p < .05), suggesting task interdependence act as moderator in the relationship between team member collectivism and team creativity. Thus H_2 was supported.

Discussion

The results from the empirical study provide support for hypothesis that the relationship between team member collectivism and team creativity is moderated by task interdependence in such a way that team member collectivism is more positively related to team creativity when task interdependence is high than when task interdependence is low. Thus we hypothesized and found that task interdependence moderated the relation between team member collectivism and team creativity in such a way that when task are interdependence among team members, teams high on team member collectivism showed greater team creativity. But this conclusion is based on the postulation that work in teams is shared and significant number of tasks that are individualized in every day work and task are should be designed in a weak manner than strong because previous findings have demonstrated that a weak task, with relatively vague information, rather than a strong task, with detailed instructions, can enhance novelty and found a weak task structure to have a positive effect on the originality of new ideas, as compared with a strong task structure (Nouri et al., 2008). Generally, complex interdependence influenced group performance strategies, which in turn affected group performance positively (Saavedra, Barley, and Van Dyne, 1993). These enable team members to interact each other, exchange information and different view point and this may lead to novel and useful ideas in their work. Van der Vegt et al., 1999; Van der Vegt & Van de Vliert, (2002) study confirm it that there are logical reasons to expect positive relationships between task and innovation, as both stimulate interpersonal interaction, communication, and cooperation within the team only by interacting with each other can team members exchange ideas, discuss divergent viewpoints, and integrate and evaluate them to create high-quality products or suggest innovative procedures. Thus for creativity of teams as those in our sample, team member collectivism that is where people interdependence each other will promote creativity when task interdependence contingent up on it. As many authors pointed out, in our study also collectivism did not account any significant variation on team creativity. One possible explanation group conformity, cooperativeness and conflict avoidance may limit the creative sparks that are essential for useful ideas. However, if a group member works under conditions of high task interdependence he or she will experience high-quality social processes and extensive mutual learning, use the knowledge and skills of interdependent members to solve problems, interpersonal interaction and will be receptive to information, communication and suggestions from interdependent others will enhance the generation of creative thoughts, and stimulate and enable a team member to promote and implement useful ideas (Van der Vegt et al., 1999; Van der Vegt & Van de Vliert, 2002; Van der Vegt, & Janssen, 2003). Thus, the possibility is when members of team interacting with each other can exchange ideas, discuss different viewpoints, and integrate and evaluate them to create high-quality products or suggest creative and innovative procedures.

Limitations and Managerial implications of this study

Generalization of this finding of our study is subject to several potential limitations. The research design of this study is cross sectional. Undertaking research at one period in time can only reflect that period in time. A greater focus on longitudinal research designs may give a better indication of team member collectivism, and team creativity relationship with moderating effect of task interdependence. This study was used subjective measure creativity. Although the subjective (supervisor) measure of team creativity and innovation has been widely used and accepted by many authors (e.g., West & Anderson, 1996; Shin and Zhou, 2007; Chi, Huang, Lin, 2009) there is still question whether there was rating bias in the supervisors' response of creativity. Thus future study can concentrate on objective measure of creativity. Also this study concentrated on team member collectivism scale, because sample collected for this study was from Sri Lankan context where Sri Lankans are said to be collectivistic in nature. The mean score for team member collectivism perception was somewhat high (M=3.83) and it confirms that Sri Lankans are collectivistic in nature. However potentially there may be some individuals in team who are individualism oriented thus future study can focus on individualism scale as well to strengthen the findings. Further, for the purpose of this study data were collected from Sri Lankan telecommunication and service sector, therefore findings of the study is limited to generalize in common nature. To determine the generalizability of this research results, future researchers should be replicated with samples from different cultures, (because Sri Lankan culture may differ from other culture e.g. social system, power distance) and sample from different sectors; e.g. research and development teams, manufacturing teams and technology driven teams to validate the findings of this study in teams. Furthermore Erez and Nouri (2010) in their graphical representation of the relationship between these cultural values and the two components of creativity – novelty

and usefulness, impliedly state that collectivism is more related to usefulness and individualism is related to originality, Thus future study can focus on these issues that is how collectivism will be related to one components of creativity that is usefulness because collectivism stresses the elaboration on the usefulness and appropriateness of an idea to ensure social acceptance and compliance with social norms (Erez and Nouri, 2010).

Managerial point of view conclusion of this study suggests that team creativity in typical team settings involving task interdependence can be enhanced through the involvement of team members possessing, at the team member collectivist orientations. Thus managers in collectivistic culture, they can enhance team creativity by structuring their task in a interdependence way among team members to allow them to share knowledge, experience, information in the organization with handling conflict carefully because high task interdependence implies the need for intensive interactions among members; it creates more opportunities for conflict (e.g. Jehn, 1995).

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