

**A FACTOR ANALYSIS STUDY ON TEAM COOPERATION QUALITY  
OF UNIVERSITY FACULTIES IN TAIWAN  
– DARK SIDE EFFECTS OF RELATIONSHIPS ON TEAM COHESION –**

Prof. Dr. Mingchang WU  
National Yunlin University of Science and Technology  
Department of Graduate School of Technological & Vocational Education  
Yunlin, TAIWAN

Prof. Dr. Shi-Chang TSENG,  
National Yunlin University of Science and Technology  
School of Engineering  
Yunlin, TAIWAN

Dr. Chiu-Hsiung CHUANG  
National Yunlin University of Science and Technology  
Department of Mechanic Engineering  
Yunlin, TAIWAN

Assoc. Prof. Dr. Chun-Shuo HSU  
Trans World University  
Department of Applied Foreign Language  
Yunlin, TAIWAN

#### **ABSTRACT**

This study was conducted to identify the factors inspiring team cooperation among universities in pursuit of teaching quality improvement. Data were collected from 146 faculty members belonging to 18 universities in Taiwan, who participated in inter-instituted cooperative projects for teaching quality improvement. The research findings revealed that both trust and commitment among the faculties created significant effects on the team cohesion in faculty collaboration communities. The trust factor was also a very significant moderating factor to faculty team cohesion; whereas, the commitment factor was approved not to act the role as moderating factor. Critically, this study concluded that the dark side of relationships created different effect on the team cohesion of faculty members' collaboration from other sample communities because that university faculty members, as social elites, usually possess well-educated backgrounds and socio-economic status. This study suggested future studies to further address the inner structural mechanism of cooperation factor mechanism through qualitative research methodologies and various research scenarios.

**Key Words:** Dark side of relationship, Inter-institutional collaboration, Higher education.

#### **INTRODUCTION**

In this knowledge-oriented era, social interactions rapidly develop for competent sources of knowledge and educational quality (Hsiao, Chen, & Yang, 2008). Institutions at higher education level are increasingly relied on to provide professional knowledge in all fields for social development and economic prosperity. Technical institutions, at the higher educational level in Taiwan, have been upgraded over the last decade so that Taiwan can compete and succeed in the global economy by providing citizens with expert educational quality. However, the expansion of institutions and student population has created internal competition because of

limited educational resources (Tien, 2007; Wu, 2011). This competition may result in potential threats to the educational quality unless innovative strategies are developed to expand the educational resources with the limited resources now available.

Inter-institutional collaboration is a constructive strategy for the sharing of information; such models can be used to improve the quality of education (Birx, Lasala, and Edd, 2011; Howell, Saba, Lindsay, and Williams (2004). Effective collaboration relies on team cohesion, which develops as a result of the participant's trust and commitment (Bullough, Draper, Smit, and Birrell, 2004; Wang, Chou, and Jiang, 2005). However, several studies revealed that there are dark side of relationships that are mostly concealed, but indeed existent among team members; these factors negatively influence team cohesion and the quality of teamwork (Anderson and Jap, 2005; Villena, Revillaa, and Choi, 2011). The impact of this dark side on collaborative relationships and their affect on team cohesion has not been determined. However, this dark side of relationships is likely to have a significant influence on the quality of inter-institutional collaborations and team cohesion.

Therefore, this study was conducted to identify the dark side of relationships existing in inter-institutional collaborations. The specific research questions were: First, how did the dark side of relationships affect team cohesion? Second, what were the relationships among the dark side of relationships, organizational commitment, organization trust, and team cohesion?

#### **THEORETICAL BACKGROUND AND HYPOTHESES**

In the current educational setting, faculty members need more than the traditional resources to fulfill their academic duties such as teaching, researching, and public services; to achieve this, collaboration with colleagues within and/or cross institutions are encouraged (Sagam and Oral, 2010; Tien, 2007). Collaborative relationships are difficult to build but easy to destroy (Bullough Jr et al. (2004). Papers, discussing collaboration, usually address the positive aspects of these relationships needed to achieve success, and ignore the dark side of such relationships, which can cause failed attempts at cooperation. Understanding the dark side of cooperative relationships is critical to improve relationships (inter and intra institution) for better quality of education (Black, Crest, and Volland, 2001).

#### **Dark side of relationships**

Universities, in this competitive era, intensively enhance their relationships with educational resource sponsors and/or other institutions for educational quality improvement while experiencing limited resources (Bush and Coleman, 2000; Creemers, 2002). Faculty collaborations are therefore built and fostered as team members for long-term cooperative relationships to reach reciprocal benefits and communal goals cross institutions (Das, 2006). This type of inter-organizational relationships (IORs) includes a variety of interactions between organizations such as information exchange, resource sharing, and integrated academic activities.

Through inter-institutional collaborations, participant faculty obtain their reciprocal contribution to, and benefits from, complementary educational resources and learning environments that facilitate dynamic improvements of competency while sharing resources (Das, 2006). Prior studies also revealed that close relationships and positive benefits came out of team works with members from different groups (Sirdeshmukh, Singh, and Sabol, 2002; Walter, Muller, Helfert, and Ritter, 2003). Whereas, the development of close relationships within team members seemed to rely on mutual and extensive involvement, institutional policies, and reciprocal goals (Das and Teng, 2000). Any unjustifiable behavior, variation in conscience, and/or violation of cooperative policies, among team members, might cause severe negative effects on the collaboration and even relationships (Adler and Kwon, 2002; Grayson and Ambler, 1999; Kim and Anand, 2006). In addition, the well-maintained relationship might unconsciously foster factors that do not benefit the collaboration; these hidden factors might not cause immediate disruption of the team relationship, but rather slowly lead to the disintegration of team cohesion (Gregoire and Fisher, 2008). Such negative effects may occur when the team

relationship is a close one. This dark side of relationships that gradually disrupt the collaboration are the major negative influences and they are the focus of this study.

Psychologists indicated that faulty members usually judge values with right or wrong side; which would lead to reciprocal controversy and/or arguments (Anderson and Jap, 2005). Management strategy experts reported that team members usually start with highly dependent relationships; this, however, is followed by inertia with regard to frequent, close, dedicated and understanding interactions (Villena, et al., 2011). This dark side of relationship influences can lead to limited strategic flexibility. Moreover, the concealed crisis emerges, but not be recognized, can lead to cognitive rigidity, among long-standing relationships that restricts team members' range of thinking and creativity. Such interactions limited within close but rigid relationships, studied by social psychologists, are believed to result from biased judgment with regard to right and wrong behavior and negative feedback with regard to social events (Miller and Nelson, 2002). This cognitive rigidity in team relationships could foster dark side effects that can spread.

Anderson and Jap (2005) indicated that dark side of relationships could easily exist in the close relationships of members of a team, cognitive inertia, and disinterest in relationships. The dark side of relationships presents in collaborative relationships is usually not observed but indeed exist to restrain interactions, and even obstruct the development of beneficial relationships. In this study, the structure and mechanisms regarding the dark side of relationships existing among the collaborating institutions were investigated. Of particular interest was to identify the characteristics of these relationships among the team members, including trust and commitment. Another important focus of this study was to understand the possible moderating effects of trust and commitment on team cohesion.

#### **Trust**

Successful relationships heavily rely on trust which may be defined as the belief or confidence in a partner's ability and opportunity to share expertise in a reliable way (Moorman, Deshpande, and Zaltman, 1993; Su et al., 2008). A lack of trust among institutional members sacrifices collaborating situations severe costs of work to inspect and verify every interaction behaviors. These costs often increase harsh reliance on complex contracts, detailed confidentiality agreements, and specific continuous improvement clauses, and even mediate cooperation (Mcknight, Choudhury, Kacmar, 2002). Trust in working relationships facilitates teamwork and reliance on one another, and reduce risk and uncertainty in relationships and behavior (McAllister, 1995; Hoy and Tschannen-Moran, 2003), the costs of doing business (Mishra, 1996), and economic disputes (Ring and Van De Ven, 1994).

As a moderating element, trust is included in most models of relationships (Chu and Fang, 2006). In this study, institutions located in central Taiwan and their faculty involved in inter-institutional projects was the focus of the study. In this study, trust was defined by behaviors that reflected team member's willingness to risk vulnerability with regard to other team members while they participated inter-institutional projects.

#### **Commitment**

Commitment is an important factor in associated with the strength of team members' relationships; it is a critical measure of team loyalty. Lachman and Aranya (1986) discussed commitment as: (1) the belief in, and acceptance of, professional goals and values; (2) willingness to exert considerable effort on behalf of the profession; and (3) a strong desire to maintain professional membership. Moorman et al. (1992) described commitment as an enduring intention to maintain a valued relationship for mutually benefits. Team building and the maintenance of long-term relationships can be achieved with mutually beneficial outcomes as a result of such commitment. In the context of this study, the faculty commitment was defined by the faculties' psychological attachment to the professional associations and colleagues; such commitment is a key to the college culture and is reflected by a sense of loyalty which the faculty members possess to the inter-institutional team (Lee, Zhang, and Yin, 2011). In fact, the concept of relationship commitment is similar to the

concept of long-term orientation, which indicates faculty members' desire to have an enduring long-term relationship with another faculty member. Therefore, a collaborative relationship should be preceded by commitment, which is preceded by trust; once achieved, these behaviors can facilitate teamwork, which is shaped in turn by good team cohesion.

### Team cohesion

Cohesion is regarded as a strong predictor of team behavior (Goodman, Ravlin, and Schminke, 1987) and denotes the degree to which team members are engaged with each other during social interactions. Cohesion is a complex, possibly multidimensional construct that was defined in a variety of ways; it refers to the strength of interpersonal relationships among the team members. Team cohesion may cause the team members to feel greater control and self-efficacy when performing team tasks and lead to internal attributions with regard to task outcomes. Team cohesion can be defined as a bond or sense of connection that team members have toward each other and toward the team as a whole (Van, Erdman, Karsdorp, Appels, Trijsburg, 2003). As team cohesion increases, members' motivation to succeed is enhanced because the team performance reflects the individuals' efforts. Therefore, the existence of team cohesion is likely to improve the chance that the faculty will conceive new ideas and perform spontaneously.

## RESEARCH METHODS

### Research design and hypotheses

This study was conducted to explore the characteristics of the dark side of collaborative relationships among faculty members while participating inter-institutional collaborations. The research goal was to determine how the dark side of relationships affected team cohesion through trust and commitment. In addition, this study also investigated the moderating effects of both trust and commitment on team cohesion. The following hypotheses were proposed:

- H1.** Dark side of relationships would significantly reduce team trust for faculty members participating inter-institutional collaborative projects.
- H2.** Dark side of relationships would significantly reduce team commitment for faculty members participating inter-institutional collaborative projects.
- H3.** Dark side of relationships would significantly reduce team cohesion for faculty members participating inter-institutional collaborative projects.
- H4.** Team trust is positively related to team cohesion for faculty members participating inter-institutional collaborative projects.
- H5.** Team commitment is positively related to team cohesion for faculty members participating inter-institutional collaborative projects.
- H6.** Trust plays a moderating role between the dark side of relationships and team cohesion
- H7.** Commitment plays a moderating role between the dark side of relationships and team cohesion

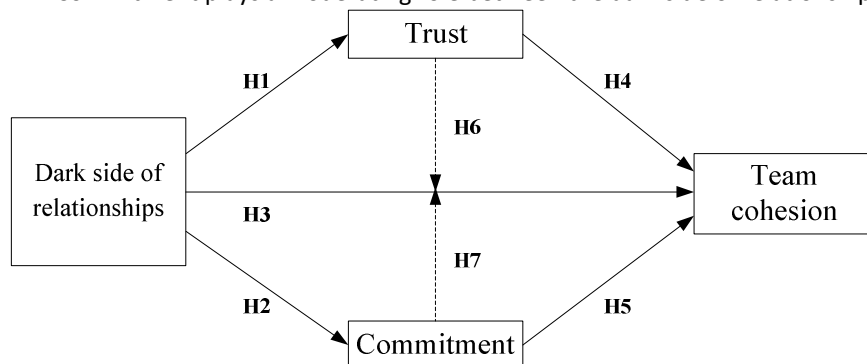


Fig. 1: Research design and Hypothesis model

### Instrument development

The questionnaire used for this study consisted of three main domains: dark side of relationships, trust, and commitment with regard to relationships. The dark side of relationships was evaluated using three items adopted from Anderson and Jap's research (2005); these items addressed the participants' individual relevance, interest, and value with regard to the inter-institutional collaborative projects. The items used for commitment were also adapted from relevant studies (Bishop and Scott, 2000). Finally, six items were developed on the basis of studies reported by Hoegl and Gemuenden (2001) to measure team cohesion. This questionnaire with 19 items consisted of four constructive domains using the 5-point Likert's Scale (1 = highly disagree to 5 = highly agree).

### Data collection and analysis

The target sample in this study was institutional faculty that participated in inter-institutional collaboration projects, in central Taiwan. Questionnaires were mailed to the target faculty of 18 institutions between January and March in 2011. A total of 250 questionnaires were delivered and 150 were returned, with a gross response rate of 60.0%; only 146 responses were valid after consideration of missing data. The structural equation modeling (SEM) method was used as well as LISREL 8.72 and SPSS 16.0 to analyze the data.

## RESULTS

### Sample's demographic data

A total of 146 responses were collected; the demographic profile of the respondents indicated that 100 participants (68.5%) were project managers and 46 (31.5%) were project co-managers (Table 1).

Table 1: Demographic analyses of samples ( $n=146$ )

Items	Category	Frequency	Ratio (%)
Age	25-30	48	32.8
	30-40	24	16.4
	40-50	35	23.9
	Over 50	39	26.7
Gender	Male	77	52.7
	Female	69	47.3
Academic level	Professor	36	24.7
	Associate professor	50	34.1
	Assistant professor	60	41.2
Experience participating collaboration	1-2 years	67	45.9
	2-3 years	51	34.9
	over 3 years	28	19.2

### Measurement model

As presented in Table 2, the all reliabilities exceeded the acceptable value of 0.7 (dark side of relationships: 0.862, trust: 0.874, commitment: 0.945, and team cohesion: 0.913) using Cronbach's  $\alpha$ . Thus, the reliability for each scale was within the commonly accepted range (Hair, Black, Babin, and Anderson, 2009). A total of 23 items were developed to assess the four factors under investigation and four items were eliminated because of factor loading. Finally, the measurement model consisted of 19 items for the four factors: dark side of relationships (DSR), trust (TRU), commitment (COM), and team cohesion (TCN). Fornell and Larcker (1981) confirmed that a more appropriate indicator was composite reliability, having taken into consideration the actual factor loading instead of assuming that every item was fairly weighted in the determination of

composite loading. In this study, the composite reliability of all the latent constructs was over 0.7; thus, the measurement model was appropriate. All factor loading of the items in the measurement model exceeded 0.60 and all average variances extracted (AVE) were within the acceptable range of 0.50. The convergent validity was evaluated by factor loading and AVE (Fornell and Larcker, 1981). Therefore, all items indicated that the convergent validity of the construct was acceptable.

Table 2: Results of testing convergent validity

Constructs	Items	Factor loading	AVE	Composite reliability	Cronbach's $\alpha$
Dark side of relationships (DSR)	DSR 1	0.76	0.692	0.870	0.862
	DSR 2	0.96			
	DSR 3	0.76			
Trust (TRU)	TRU1	0.73	0.641	0.876	0.874
	TRU2	0.91			
	TRU3	0.68			
	TRU4	0.86			
Commitment (COM)	COM1	0.77	0.745	0.946	0.945
	COM2	0.88			
	COM3	0.93			
	COM4	0.86			
	COM5	0.91			
	COM6	0.82			
Team cohesion (TCN)	TCN1	0.82	0.650	0.917	0.913
	TCN2	0.82			
	TCN3	0.82			
	TCN4	0.91			
	TCN5	0.81			
	TCN6	0.63			

### The structural model

In this study, the path analysis was conducted to determine the proposed structural model. Each hypothesis was also examined by means of the significance of the t-value for its corresponding path (Fig. 2). The analysis results indicated in Figure 2 supported hypotheses: H1, H2, H4, and H5, but denied the H3. The structural equation modeling (SEM) was employed to test the causal structure of the proposed model. As shown in Table 4, the chi-square/df met the standard criteria; a chi-square/df that was lower than 3.0 supported a good fit according to the informal rule-of-thumb criteria (Bagozzi and Yi, 1988). The goodness-of-fit of the confirmatory factor analysis (CFA) model was also examined using a variety of fit metrics (Table 3). Although the norm fit index (NFI) and the adjusted goodness-of-fit index (AGFI) were both slightly lower than the recommended value of 0.9, the root mean square residual (RMR) was lower than 0.05, and the root mean square error of approximation (RMSEA) was lower than 0.08, while the comparative fit index (CFI), the non-normed fit index (NNFI) were both slightly lower than the recommended value of 0.9. All of the model indices exceeded their respective common acceptable levels. These results testified that the structural model fit the data (Bagozzi and Yi, 1988; Hair et al., 2009).

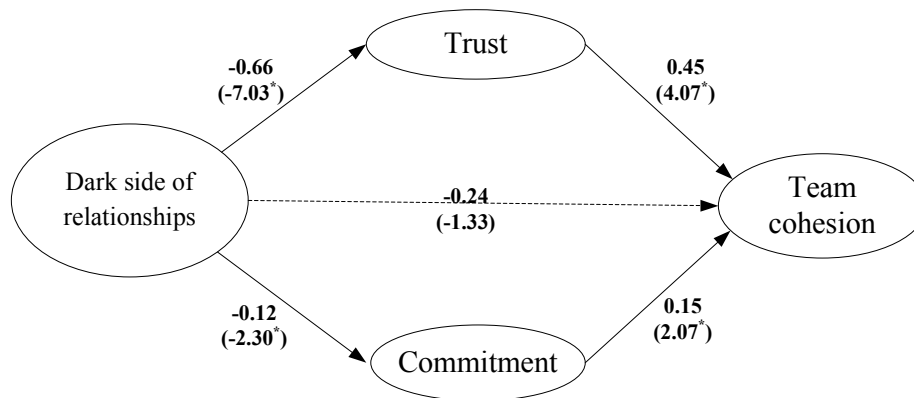


Fig. 2: Analysis results of the structural model

Table 3: Measures of model fit and reported values for the structural model

Fitness index	Recommended Values	Model values	Model fitness
Chi-square	$P < 0.05$	347.84 (P=0.000)	poor fit
Chi-square/ degree of freedom	$< 3$	2.37	Good fit
GFI (goodness of fit index)	0.8	0.82	Good fit
A GFI (adjusted goodness of fit index)	0.8	0.76	Moderate fit
RMSEA (root mean square error of approximation)	0.08~0.1	0.08	Good fit
NFI (normed fit index)	$> 0.9$	0.93	Good fit
NNFI (Non-normed fit index)	$> 0.9$	0.95	Good fit
CFI (Comparative fit index)	$> 0.9$	0.96	Good fit

### Moderating effects

A series of structural models for each of the low-trust subgroups, and the high-trust subgroups, as well as the low-commitment and high-commitment subgroups were constructed to test the moderating affects. The t-test was also conducted to evaluate the differences in path coefficients across models in order to rigorously compare the effects across subgroups. The assumptions were met for the comparisons of gammas, as suggested by Carte and Russell (2003); the equations were also described as follows:

$$S_{pooled} = \sqrt{\frac{N_1 - 1}{N_1 + N_2 - 2} \times SE_1^2 + \frac{N_2 - 1}{N_1 + N_2 - 2} \times SE_2^2}$$

$$t = \frac{PC_1 - PC_2}{S_{pooled} \times \sqrt{\frac{1}{N_1} + \frac{1}{N_2}}}$$

where;  $p_i$  was the path coefficient in the structural model of trust  $i$  or commitment  $i$ ;  $n_i$  was the sample size of the dataset for trust  $i$  or commitment  $i$ ;  $SE_i$  was the standard error of the path in the structural model for trust  $i$  or commitment  $i$ ;  $t_{ij}$  was the  $t$ -statistic with  $(n_1+n_2)^{-2}$  degrees of freedom.

The comparison analyses regarding the impact of dark side of relationships on team cohesion indicated that its impact under high trust conditions ( $b=-0.38$ ,  $p<0.01$ ) was greater than that under low trust conditions ( $b=-0.33$ ,  $p<0.01$ ) (Table 4). Therefore, H6 was supported. The comparison on impacts of dark side between low commitment and high commitment revealed that there was no significant moderating effect of commitment for the dark side of relationships on team cohesion. H7 was not supported. On the basis of the comparison analysis results with regard to the moderating effects of trust, the impact of the dark side of relationships on team cohesion, the low-trust subgroup possessed the greater impact of the dark side of relationships on team cohesion than that the high-trust subgroup did, as anticipated. On the other hand, with regard to the moderating effects of team commitment, the impact of dark side of relationships on team cohesion did not support the proposed hypothesis.

As presented in Figure 4, an approach to increase team trust and decrease dark side of relationships to develop team commitment could be recommended. The results revealed that team trust directly influenced team cohesion. On the basis of this finding, factors that enhance commitment, such involvement in the budget and work assignments, might improve group dynamics. On the other hand, with regard to the moderating effects of team commitment, the dark side of relationships did not affect team cohesion when moderation by team commitment was considered.

Table 4: Statistical comparison of the paths

	Low trust (n=85)			High trust (n=61)			Statistical comparison of paths
	Path	Std error	t-Value	Path	Std error	t-Value	
DSR→COM	0.22	0.114	1.84	0.15	0.150	1.08	3.204*
DSR→TCN	-0.33	0.120	-2.67	-0.38	0.138	-2.78	2.331*
COM→TCN	0.03	0.125	0.26	0.48	0.137	3.18	-20.607*
	Low commitment (n=105)			High commitment (n=41)			
DSR→TRU	-0.58	0.121	-4.80	-0.76	0.153	-4.97	7.480*
DSR→TCN	-0.12	0.125	-0.93	-0.10	0.150	-0.69	-0.820
TRU→TCN	0.43	0.136	3.13	0.79	0.191	4.12	-12.754*

\* $p<0.05$



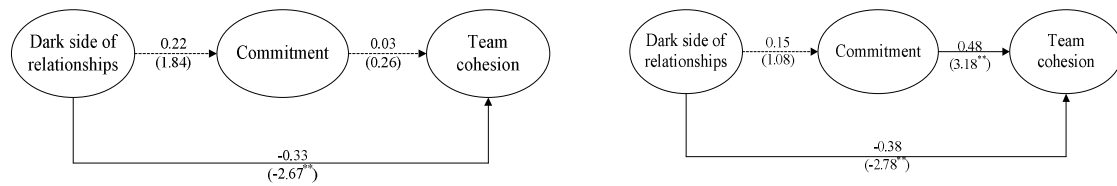


Fig. 3: Low trust (left) and high trust (right).

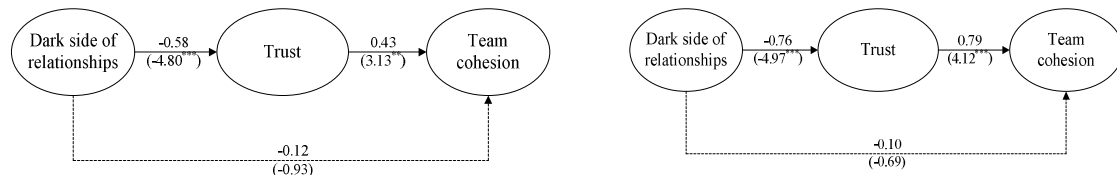


Fig. 4: Low commitment (left) and high commitment (right)

## DISCUSSION AND CONCLUSION

### Discussion

Positive aspects of relationships have been broadly discussed in previous studies for team collaboration in organizational management (Terpend, Tyler, Krause, Handfield, 2008; Villena et al., 2011; Walter et al., 2003). On the contrary, limited amount of studies concerned and focused on the dark side of relationships, particularly for collaboration teams of professionals, even recognized its critical impacts (Anderson and Jap, 2005; Giller and Matear, 2001; Haline and Tahtinen, 2002; Villena et al., 2011). That implies it needs more studies to further understand the full range of faculty relationships (Black et al., 2001; Mohammadi, Yeganeh, Rad, 2010). In addition, the importance of the moderating effects of trust and commitment with regard to team behaviors caught high attention in previous studies (Clercq, Dimov, Thongpapanl, 2010; Mcknight et al., 2002; Ybarra and Turk, 2009). Vocational institutions at higher education level in Taiwan actively engage in inter-institutional projects to expand the institutional programs across schools by means of sharing educational resources. Given this emphasis on resource sharing and program integration, both intra- and inter-institutional faculty relationships become of interest and, therefore, the focus of study.

The dark side of relationships in this study was investigated on the bases of the relationships among faculty involved in inter-institutional collaboration projects in order to further explore how it affects team cohesion. The results of this study exposed that: (1) dark side of relationships possessed significantly negative effects on team trust; that supported hypothesis 1; and (2) dark side of relationships also possessed significantly negative effects on team commitment; that supported hypothesis 2. These findings are consistent with the research reported by Clercq et al. (2010) and confirmed the detrimental functions created by dark side of relationships in collaboration teams, even highly professional teams.

Both team trust and commitment were found to have positive relationships on team cohesion; that supported the hypothesis 4 and 5, and were consistent with those of Carver, Candela, and Gutierrez (2011) and Lee et al. (2011). Both trust and commitment were confirmed to be favorable to team cohesion in various of organizations, including university settings. Based on the social capital theory (Nahapiet and Ghoshal, 1998), the positive relationship factors are essential for team cohesion because a good relationship fosters self-recognition and self-efficacy for team members while working on group projects. This study obtained the similar results to that of Hausman and Goldring (2001) and declaimed that faculty in a well-developed professional team tended to have a stronger trust and commitment to their institutions while conducting inter-institutional projects.

However, the hypothesis 3 was rejected; that means dark side of relationships was not negatively associated with team cohesion directly. This finding seemed to be diverse to some previous studies which were conducted in business organizations (Grayson and Ambler, 1999; Gregoire and Fisher, 2008), and implied the educational context of this study might possess different characteristics creating various impacts of dark side of relationships on team cohesion (Bullough, Draper, Smith, and Birrell, 2004). It was also assumed that university faculty, as social elites highly educated faculty with high-ranked self-efficacy and academic destiny (Mohammadi et al., 2010), might moderate the direct effects of dark side of relationships on team cohesion due to their self-control, high team approval, and/or personal achievement motivation while encountering the collaboration projects (Bishop and Scott, 2000; Paulson, 2002).

In addition, trust was found to be a moderator between dark side of relationships and faculty team cohesion, but commitment not. The moderating effects of trust on close relationships were confirmed in this study as that reported by Fleming and Thompson's (2004); the collaboration among team members relied on high trust and the intention to share resources among faculty members. The faculty members' trust within inter-institutional projects significantly facilitates interactions by allowing members to be open or vulnerable to others (Louis, 2006). This crucial component, trust, is so needed to feel safe so that they can discuss even make mistakes, and try innovative ways to solve problems, and to create pioneering achievement through team brain-storming (Lee et al., 2011; Wahlstrom and Louis, 2008).

#### Conclusion

Nowadays, the educational quality relies on resource sharing and faculty collaboration; inter-institutional collaboration policies become a high priority in the current educational setting to reach better academic achievement with limited resources (Curran, 2000). Consequently, it becomes increasingly important to further understanding faculty community cultures and factors influencing their interaction relationships in order to build and improve the educational quality. The collaborations among faculty members are believed to be more productive than individual efforts to reach reciprocal and far-fetched achievement (Birn et al., 2011; Bullough Jr et al., 2004).

This study concluded that trust, identified as a core factor that facilitates personal engagement and team cohesion, plays an extremely important role in the educational setting. The faculty should be trusted to carry out their responsibilities within team collaboration processes. In conclusion, both trust and commitment are crucial and significant factors constructive to team cohesion. Trust is also a moderating factor between dark side of relationships and team cohesion, whereas commitment is not. That is, different levels of trust team members possess significantly influence the dark side of relationships on team cohesion with moderating effects. Trust within team members plays a more dominant role in collaboration team. More attention could be focused on that both trust and commitment were identified as significant factors of team cohesion; however, these two factors produce various moderating effects on team cohesion. Therefore, the mechanism involved the moderating factors of relationships, requires further systematical exploration on the inside powers of trust and commitment within faculty community.

This study additionally concluded that the dark side of relationships might create significant effects, only indirectly through trust and commitment but not directly, on team cohesion of faculty members. This phenomenon concluded in higher educational settings seems different from that in business world, and suggests that faculty community possesses some exclusive traits of social elites diverse to general employees. Furthermore, educational institutions, different from the business world, are not characterized with special forms of centralized power or authorities, but rather flexibility, individuality, and autonomy with regard to team performance. Team cohesion in this faculty community could also encourage their self-efficacy and lead faculty members to be more responsible for individual performance outcomes as well as group achievement. This conclusion also encourages future studies should be conducted to further understand the dark side of relationships through investigations on additional variables and types of collaboration research.

#### BIODATA AND CONTACT ADDRESSES OF AUTHORS



Dr. Wu is a full Professor of the Graduate School of Technological & Vocational Education, National Yunlin University of Science and Technology, Taiwan, after he received his Ph. D. from Purdue University in the USA. His research interests focus on Vocational education development, Reasoning Skills, and Collaborative projects in educational settings. He has presented papers at several conferences around the world and published in international journal including in EFL Journals.

Prof. Mingchang WU  
Graduate School of Technological & Vocational Education  
National Yunlin University of Science and Technology  
Yunlin, TAIWAN  
Phone: 886-5-5342601 ext 3190; Mobile: 886-929023602  
Fax:886-5-536-1131  
[wumc@yuntech.edu.tw](mailto:wumc@yuntech.edu.tw)



Dr. Tseng is the Dean of College of Engineering, National Yunlin University of Science and Technology, Taiwan, after he received his Ph. D. from University of Wisconsin-Madison in the USA. He is in charge of administration and accreditation of engineering education in YunTech's college of Engineering. He has presented papers at several conferences around the world and published in international Journals.

Dr. Shi-Chang TSENG  
Professor, Department of Mechanical Engineering  
National Yunlin University of Science and Technology, TAIWAN  
Phone:+886-5-5342601 ext. 4146  
[tsengc@yuntech.edu.tw](mailto:tsengc@yuntech.edu.tw)



Mr. Chuang is an experienced administer in charge of several global well-known companies and instructor in technological university. His expertise focuses on industry-university collaboration, business incubation, and educational organization consulting. He has been invited to have many speeches consulting industries and human resource development in the last decade.

Instructor, Chiu-Hsiung CHUANG  
National Yunlin University of Science and Technology  
Department of Mechanic Engineering  
Yunlin, TAIWAN  
Phone: 886-47250146; 886-922751489  
[cschuang@yuntech.edu.tw](mailto:cschuang@yuntech.edu.tw)



Dr. Hsu is an Associate Professor of the Department of Applied Foreign Language, TransWorld University in Taiwan, he graduated from M.B.A. in Japan, and Ed.D, in USA. His research interests focus on Human Resource, and students' Learning Effect in educational settings. He likes to travel several country, and take pictures in the world.

Assoc. Prof. Chun-Shuo HSU  
Department of Applied Foreign Language  
TransWorld University, Yunlin, TAIWAN  
Phone: 886-934312968  
[Cshsu58@livemail.tw](mailto:Cshsu58@livemail.tw)

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